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SPECIAL FEATURES IN THIS ISSUE

Effects on employment of the printer telegraph for handling news, p. 753

Displacement of labor by installation of automatic grade-crossing devices, p. 759

Unemployment in Syracuse, N. Y., November, 1931, p. 770

Labor legislation of 1931, p. 819

Wages and hours of labor in anthracite mining, p. 896

General survey of wages in Great Britain and Scandinavian countries, p. 928

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W. N. DOAK, Secretary
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Contents

Special articles: Page

Effects on employment of the printer telegraph for handling news.... 753

Displacement of labor by installation of automatic grade-crossing devices, by Clyde M. Huber..... 759

Employment conditions:

Unemployment in Syracuse, N. Y., November, 1931, by Frederick E. Croxton and John Nye Webb..... 770

Methods of Rochester (N. Y.) Public Employment Center..... 778

Study of applicants for jobs at Rochester Public Employment Center. 782

Unemployment in foreign countries..... 783

Insurance, benefit, and thrift plans:

Unemployment-benefit plan of Minnesota Mining & Manufacturing Co..... 788

Insurance and savings plan of the Forum Magazine..... 790

Employee savings and investment plans..... 790

Benefits paid by photo-engravers' unions..... 793

India—Administration of Bombay maternity-benefit act..... 794

Family allowances:

France—Law providing for general system of family allowances..... 796

Industrial and labor conditions:

China—Effects of industrialization upon village life..... 799

France—Effect of the depression upon contractual industrial relations. 802

Great Britain—Report of committee on working conditions of retail clerks..... 803

Iceland—Labor conditions..... 805

Lithuania—Labor conditions, 1931..... 808

Health and industrial hygiene:

Malignant growths resulting from exposure to radioactive substances. 809

Absorption of hydrocyanic acid gas through the skin..... 813

Effects of different temperatures on health and efficiency..... 813

Industrial accidents:

Kansas—Fatal accidents, 1930..... 817

Labor laws:

Labor legislation of 1931..... 819

Laws governing trade-marks of trade-unions..... 831

Workmen's compensation:

Recent compensation reports—

Missouri..... 835

New Jersey..... 836

Pennsylvania..... 837

South Dakota..... 838

Virginia..... 839

Cooperation:

Progress of the Cooperative League in 1930..... 841

Average wages in cooperative employment..... 842

Growth of postal credit unions in 1931..... 844

Workers' education and training:

Developments in industrial education, 1931..... 845

Annual meeting of National Vocational Guidance Association..... 847

Labor organizations:

Great Britain—Growth of labor organizations among nonmanual workers..... 848

	Page
Industrial disputes:	
Strikes and lockouts in the United States, February, 1932	850
Conciliation work of the Department of Labor in February, 1932	852
Canada—Strikes and lockouts, 1931	856
Colonization:	
Encouragement of colonization within Canada	857
Housing:	
Building permits in principal cities of the United States, February, 1932	859
Building permits in principal cities in 1931, by types of buildings	875
New York—Tenement dwellings in New York City	894
Wages and hours of labor:	
Wages and hours of labor in anthracite mining, 1931	896
Wage-rate changes in manufacturing industries in February, 1932	913
Wage changes reported by trade-unions since December, 1931	914
California—Salaries of library employees	916
Canada—Wages and hours of labor, 1930 and 1931	918
France—Wages in the hair industry	922
Japan—Wages in Tokyo in December, 1931	923
Newfoundland—Wages and hours of labor, 1931	924
Great Britain—General survey of wages, 1931	928
Denmark—General survey of wages, 1930 and 1931	942
Norway—General survey of wages, 1930 and 1931	951
Sweden—General survey of wages, 1930 and 1931	955
Trend of employment:	
Summary for February, 1932	970
Employment in selected manufacturing industries in February, 1932	972
Employment in nonmanufacturing industries in February, 1932	980
Trend of employment in February, 1932, by States	982
Employment and pay rolls in February, 1932, in cities of over 500,000 population	988
Employees in executive civil service of the United States, February, 1932	989
Employment in building construction in February, 1932	991
Employment on Class I steam railroads in the United States	992
Wholesale and retail prices:	
Retail prices of food in February, 1932	994
Retail prices of coal in February, 1932	997
Comparison of retail-price changes in the United States and in foreign countries	998
Index numbers of wholesale prices in February, 1932	1000
Cost of living:	
Canada—Changes in cost of family budget, 1921 to 1931	1003
Chile—Rents lowered	1004
Immigration and emigration:	
Statistics of immigration for January, 1932	1005
Publications relating to labor:	
Official—United States	1008
Official—Foreign countries	1010
Unofficial	1012

Page
850
852
856
857
859
875
894
896
913
914
916
918
922
923
924
928
942
951
955
970
972
980
982
988
989
991
992
994
997
998
000
003
004
005
008
010
012

This Issue in Brief

The productivity of operators of printer telegraphs in 1931 was more than fifteen times as great as the productivity of Morse telegraphers in the principal news-service organizations, according to a study by the United States Bureau of Labor Statistics. This remarkable difference was due in part to the greater speed of operation, but mainly to the fact that reception of dispatches by means of the printer telegraph is automatic. The displacement of Morse telegraphers can not be measured exactly, but if news agencies now depended on the Morse system, they would employ several times as many operators to handle Morse circuits as they now employ on printer circuits. Page 753.

Automatic signals are rapidly displacing watchmen and gatemen at highway crossings. A study made for the Bureau of Labor Statistics shows that the percentage of displacement ranges from about 50 per cent, in the case of combined manual and automatic installations, to 100 per cent, in the case of complete automatic track-circuit control or of grade separation. It is conceded that automatic protection for 24 hours a day is preferable to part-time protection by watchmen and flagmen. The estimated number of employment opportunities lost through the use of automatic signals and grade separations up to the end of 1930, was 44,343. A factor compensating to some extent for the displacement of the watchmen and flagmen is the provision of employment, for other classes of workers, on grade-separation projects and in the maintenance of the automatic signals. Page 759.

A survey in Syracuse, N. Y., in November, 1931, showed that of the males able and willing to work 19.9 per cent were wholly unemployed and an additional 20.7 per cent were working only part time. Of the females able and willing to work, 17.8 per cent were totally unemployed and 16.9 per cent more were employed only part time. Among these unemployed persons, 39.6 per cent of the men and 54.4 per cent of the women had had no work for from 4 to 30 weeks, while 41 per cent of the men and 29.9 per cent of the women had been out of work for a year or more. Page 770.

Earnings of anthracite mine workers in October, 1931, averaged 82.4 cents per hour, according to a study made by the Bureau of Labor Statistics covering 42,689 wage earners in 47 collieries. Average hourly earnings in 1931 were 3.3 cents less than in 1924, the date of the last previous study for this industry. Earnings in a half month in 1931 averaged $70.36 as compared with $75.01 in 1924. Hours worked per day in 1931 averaged the same as in 1924—7.8—while the hours worked per half month averaged 2.1 less than in 1924. These figures apply to all occupations, inside and outside the mines, combined. Page 896.

An unemployment-benefit plan was placed in operation by the Minnesota Mining & Manufacturing Co. (St. Paul) on January 1, 1932. The plan provides for benefit payments for from 10 to 17 weeks in any one year, depending upon length of service. These payments are at the rate of 60 per cent of the first $10 of normal earnings plus 20 per cent of the balance of weekly earnings in excess of $10, plus 5 per

cent of the total benefit payment for every year of service beyond 3 years. The cost of the plan will be met by employer contributions not to exceed 2 per cent of pay roll, and by employer and employee contributions in times of emergency. Page 788.

The Forum Publishing Co. (New York City) has established a savings reserve fund to provide assistance to employees in times of illness and unemployment. A sickness and accident fund is raised by employer and employee contributions and the benefits paid range from $10 to $25 a week for a period of 13 weeks. Separate savings are accumulated for assistance during unemployment. This organization also provides a dismissal-wage payment amounting to 25 per cent of wages, or not less than $10 a week, for six months. Page 790.

The beneficial effects of savings and investment plans for employees of industrial establishments have been felt during the present depression when the possession of such savings has provided a certain measure of security to employees temporarily laid off or put on part time. Such plans naturally do not take the place of industrial planning and the regulation of production and employment, but they do provide an effective means for helping employees to protect themselves against economic hardship. Page 790.

A union-label law for the District of Columbia was approved by the President on February 18, 1932. In addition to this law, similar legislation has been adopted by 44 States. The laws in general authorize associations of employees to adopt a device to designate the products of their labor. Labor organizations are therefore secured in their right to register, etc., the trade-marks or labels chosen by them to distinguish their products. Page 831.

An act to make the payment of family allowances compulsory for employers in France was signed by the President of the Republic on March 11, 1932. The provisions, however, are to be put into effect gradually through decrees of the Minister of Labor. The law creates a high commission on family allowances to cooperate with the Minister of Labor and serve in an advisory capacity in connection with the orders and decrees to be promulgated in connection with these grants. Page 796.

The development of malignant growths in persons who have been exposed to radioactive substances is shown by Dr. Harrison S. Martland in a recent article to be a delayed effect of this exposure. In cases which developed within a few years of the termination of industrial exposure the effects were shown in jaw necroses and anemias, while in the late cases the patients instead show crippling bone lesions. The necessity for proper medical supervision over the use of radium and X rays in the treatment of cases of disease, and for governmental control over industries and occupations in which there is exposure to radioactive substances, is pointed out. Page 809.

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Effects on Employment of the Printer Telegraph for Handling News

DURING the past 15 years, telegraphic methods of transmitting news have undergone a remarkable revolution. Morse telegraphers have been superseded largely by operators of printer telegraphs (teletypes). In appearance and mode of operation, the printer telegraph resembles an ordinary typewriter. But the depressing of a key not only prints a character on the transmitting machine but makes an electrical contact which sends a character impulse over the wire and automatically prints the same character on a receiving machine or on several machines connected by the telegraphic circuit. Under Morse operation, an operator would be required at each receiving position. The speed of the printer is about twice that of the Morse operator.

This article gives the results of a study of the printer telegraph as used by the principal press organizations. The productivity of the printer-telegraph operator in these agencies is more than fifteen times as great as the productivity of the Morse operator. The expansion of news services has been facilitated by the printer telegraph, but expansion under Morse operation would undoubtedly have led to the employment of many times the number of telegraph operators now required as a result of transition to the printer telegraph.

The newspapers of to-day depend for most of their nonlocal news on the telegraphic services of news-gathering organizations which do not themselves publish papers. The number of papers in the United States (morning, evening, and Sunday, daily, semiweekly, and weekly) served by a single organization of this kind in 1930 was 1,225. The organization also serves certain papers outside of the United States, and maintains exchange contracts with many news agencies abroad. There are several other large general agencies, and many more which render specialized services, such as financial news and syndicated news features. Even metropolitan news has come to be handled in part by special agencies. One such organization has 11 clients, whom it serves by local telegraphic circuits.

Transition from Morse to Printer Telegraph

TELEGRAPHIC handling of news by the agencies is by means of leased-wire trunk-line circuits tapped by drop circuits connecting the individual newspapers with the main circuits. Drop circuits vary greatly in length of time operated and in words transmitted. Some are in use during the full 24 hours, but most of them for only part of the

day. On a Morse circuit, a receiving operator is required for each drop circuit which taps a main circuit. In the case of the printer telegraph, the drop circuits are handled ordinarily by "blind" printers, that is, by printers which receive only and which are operated automatically in synchronism with the printer at the transmitting end. In some cases printers on drop circuits can send as well as receive, but in any case, reception is automatic. Now and then an office boy tears off the typed communication for delivery to the editorial department; that is the only operation required at the receiving end.

The effects of this arrangement are apparent in the following table relating only to the more important news-service organizations. The table also reveals in part the expansion of the work of news agencies; and it measures, though not completely, the transition, in this important field, to the printer telegraph.

CHANGES IN NUMBER OF MORSE AND PRINTER DROP CIRCUITS AND OPERATORS, PRINCIPAL NEWS ORGANIZATIONS, 1915 TO 1931

Year	Number of drop circuits			Number of operators		
	Morse	Printer	Total	Morse	Printer	Total
1915	854	79	933	1,114	11	1,125
1922	1,181	416	1,597	1,549	67	1,616
1929	408	2,037	2,445	625	229	854
1931	398	2,317	2,715	586	335	921

Effect of Printer on Employment of Operators

THE first printer telegraph in use by a news agency was installed in 1915. Other agencies began to use the printer during the same year, but by the end of the year printer drop circuits numbered only 79, out of a total of 933 operated by the principal agencies. By 1931, the number of Morse drop circuits had declined to 398 and the number of printer drop circuits had grown to 2,317. It will be seen from the same table that the number of Morse operators increased from 1,114 in 1915 to 1,549 in 1922 (when the transition to printer became more rapid), and then fell rapidly to 586 in 1931; while the number of printer operators increased from 11 in 1915 to 335 in 1931.

It is especially interesting to note that in news gathering and transmission there seems to have been no slackening as a result of the economic depression, the year 1931 showing a decided advance over 1929. It is not known whether this marks a net gain or whether it is merely a result of a possible transfer of the functions of news transmission from commercial telegraph companies and private wires of newspapers to the news agencies.

For earlier years it is impossible to reduce the drop circuits to a common basis in terms of hours in use and the operators to a common basis in terms of full-time tricks or shifts. For 1931, more adequate information is available, and so for that year a more detailed analysis can be made.

In 1931, 335 printer operators were reported in the service of principal news-service organizations. But some of these were part-time operators. Equated on a full-time basis, their number was 243. This number is approximately the number of full-time equated trans-

mitting positions, which of course would have to be filled by operators, whether the circuits were Morse or printer.

The number of receiving printer positions (that is, the number of printer drop circuits) reported for 1931 was 2,317. Some of these, however, were part-time circuits and some were in use more than eight hours daily. Reduced to a full-time basis, they numbered 1,937. Under Morse operation, each of these, as well as each of the transmitting positions, would require an operator.

If Morse and printer operators transmitted at the same speed, the total number of Morse operators on a full-time basis necessary to man all of these transmitting and receiving positions would be 2,180, as contrasted with the 243 equated full-time opportunities under printer operation.

But the speed of Morse operators is not equal to the speed of printer operators. Printer telegraphs in most cases are geared to a speed of 60 words a minute. The operator is in reality a typist, and he soon learns to adapt his manipulation of the keyboard to the rhythm of the automatically geared transmitter. Transmission may be direct from the keyboard or it may be by means of a perforated tape. The latter method is more flexible, because the typist can speed up and have a leeway of perforated tape and then if his typing is interrupted, the tape transmitting device goes on at the uninterrupted speed of the gearing—usually 60 words a minute.

The speed of the Morse operator is more variable, and is limited by the speed of the slowest receiving operator on any of the various drop circuits. Morse operators in the press organizations are usually speedier than those in commercial telegraph offices, partly because of the specialized nature of their work and the relatively homogeneous nature of press dispatches.

Except for a very few cases of low-speed printers, it is probable that printer operators transmit twice as rapidly as Morse operators. Certainly the ratio of 60 to 35 is a conservative estimate of the speed of printer operation as compared with Morse.

Therefore, if Morse operators were required to render service equivalent to the service now handled by printer, the 2,180 transmitting and receiving positions necessary on the assumption of equal speed would have to be multiplied by sixty-thirty-fifths, and the total number of Morse operators which would be required to render the services now handled by printer becomes 3,737 in contrast with the 243 equated full-time printer positions.

Subtracting 243 from 3,737, we have 3,494, the net number of employment opportunities for operators lost because of printer operation, on the assumption that equivalent services would be required by Morse if printers were eliminated. Expressed in another way, the productivity of the operator of the printer telegraph is more than fifteen times as great as the productivity of the Morse operator in this particular field.

This remarkable figure is mainly a result of factors already mentioned—the elimination of receiving operators by the use of "blind" printers on drop circuits, and the greater speed of the printer. Another factor (which was taken into account only in part, since full figures were not available) is double transmission combined with automatic reperforation for use in handling standardized news items.

In the transmission of ordinary news, adaptations of the news are necessary to meet the interests and requirements of different sections and different types of journals.

The dispatches are therefore edited and adapted to varying demands and sent out over different circuits, each transmission requiring a separate operation. From the trunk-line circuits, local circuits carry further modifications of the dispatches as adapted to local needs; and these same local circuits are used for the transmission of local news to the main offices of the news agencies. (The occasional transmission of local news to the central offices of the associations is usually not by regular operators, but by bureau managers, reporters, or editors). All these processes require substantially as many transmitting telegraphic positions as would be required by means of the Morse system, although printer operation is much more rapid.

But a considerable portion of the news is so highly standardized or of such general interest as to require no modifications for the use of different sections or different types of clients and members. Particularly is this true of syndicated feature stories and some types of financial news. Such items are "punched out" on tape (that is, the typing process puts the communication on tape in the form of perforations, which, when put through the tape transmitter, actuate the telegraphic impulses), and the tape is automatically put through separate transmitting devices for transmission over separate circuits. For example, a story or a set of market quotations originating in New York is in this way put on a circuit running north and south out of New York, and on another circuit running westward to Chicago. On each of these circuits there are drop circuits with "blind" printers on which the communication is automatically printed. At Chicago, there is an automatic reperforating device, which puts the same communication on perforated tape as in New York; this tape thus automatically perforated at Chicago is sent through transmitting devices over additional circuits having drop-circuit arrangements similar to those of the circuits running out of New York. A story or set of market quotations originating at Chicago is "punched out" at Chicago, and the perforated tape transmits the communication over circuits running out of Chicago, including the one between Chicago and New York. At New York, the communication from Chicago is automatically reperforated and transmitted over the circuits running out of New York. The method thus illustrated is flexible and can be adapted to various conditions.

In this manner, one transmitting operator handles two or more circuits. Under Morse operation, a transmitting operator would be required for each of the main circuits and a receiving operator would be required for each of the drop circuits.

In addition to the printer telegraphs used by the Associated Press and other large news-service organizations, many are used by agencies which specialize in limited types of news, by metropolitan organizations, and by newspapers with private leased wires of their own. The number of printer telegraphs not included in the statistical data given above must in the aggregate be quite large, but it is not easily ascertainable.

A modification of the printer telegraph is the teletypesetter. It has been described as an extension of the printer telegraph (teletype)

from the editorial rooms to the mechanical department. As in the case of the teletype used in transmitting news, there is a typewriter which perforates a tape in code characters. The code used is the Morkrum 6-unit code. The ordinary printer telegraph uses a 5-unit code and types capitals only. The added unit of the teletypesetter is for the purpose of selecting upper and lower case characters. The perforated tape is sent through a transmitter, and the perforations establish electrical contacts which actuate typesetting machines in the mechanical departments of newspapers instead of typewriters on drop circuits in editorial departments. In a limited field (for example, a chain of papers carrying a high percentage of standardized or syndicated copy), the teletypesetter may prove to be an important labor-displacing device. Whether or not it will prove to be adapted to press-association work remains to be seen. In any case, the displacement of labor will be not so much among press-agency employees as among the employees of newspapers.

In contrast with commercial telegraph offices, the use of the printer telegraph in press-agency work has not caused a shift from male to female operators. The number of female operators is negligible.

The skill necessary for Morse operation commands a higher wage than is paid to printer operators, but the difference between the two in press-service offices is not so great as in commercial offices, presumably because of the more specialized nature and the more exacting demands of press-agency work.

The news-service organizations, in dealing with the problem of displaced Morse operators, were aided by the fact that during the transition the rapid expansion of the brokerage business up to 1929 caused an unprecedented demand for Morse operators for handling the order and report business of brokerage firms. The press agencies followed the policy of filling vacancies on a temporary basis, of releasing operators who had low seniority standing, and of transferring Morse operators to positions as printer operators. However, the total number of Morse operators retained as printer operators is less than 40.

One of the leading associations reported a policy of transferring regular operators to other cities, when positions were available elsewhere, at the expense of the association.

The total number of employees of one of the principal press agencies is approximately the same as it was in 1922. The expansion of the business has made necessary the employing of some additional reporters, editors, and news men. Outside the ranks of employees of news agencies, there has been a slight temporary increase of employment in connection with the manufacture and installation of printer telegraph equipment.

A final point must be emphasized. It was stated above (p. 755) that 243 operators of printer telegraphs render as much service as approximately 3,737 Morse operators could render; that is, the productivity of operators of printer telegraphs in the handling of news is more than fifteen times as great as the productivity of Morse operators in the field of work provided by the news-service organizations. If there were no printer telegraphs, would 3,737 Morse operators be employed to do the work now being done by 243 printer operators? The answer is plainly in the negative. Some of the services rendered by means of the printer telegraph would not be rendered at all if Morse circuits only were available. As to the proportion of news transmis-

sion that is dependent on the use of printer circuits, the estimates of experts connected with the news agencies vary. Some of the smaller newspapers probably could not afford the cost of a Morse circuit; others could not afford so large a volume of news; still others would not be materially affected.

The problem of estimating the extent to which the amount of service rendered depends on the printer telegraph is illustrated by the case of the so-called State circuits. These make up not far from half of the total number. Under printer operation the number of words they receive is about twice the number they had been receiving by Morse, and the cost is approximately the same. If there should be a return to Morse operation, no doubt many subscribers would cut down the amount of news received.

It is impossible to estimate even approximately the extent to which the news-service organizations would have expanded their services from 1915 to the present if they had been dependent on Morse circuits. But it is easy to exaggerate the effects of the printer telegraph in causing expansion. Various other factors were important. The World War and the quickening of international relations whetted the public appetite for news. The development of a national economy tied the different sections of the country together and made a knowledge of national happenings economically essential. The automobile, national sports, national advertising, and other agencies promoted a sectional and cultural intermingling and a resulting emphasis on the interchange of news. Not the least important has been the general speeding up of the tempo of life.

By referring to the table on page 754, we see that from 1915 to 1922 the number of Morse drop circuits increased, in competition with printer circuits, from 854 to 1,181. Thereafter the improvement in printer transmission caused a rapid increase in the number of printer circuits and a corresponding decline in the number of Morse circuits. If the printer telegraph had not intervened and the number of Morse circuits had increased from 1922 to 1931 at the same rate as between 1915 and 1922, the number of Morse circuits in 1931 would have been 1,601. If there had been no competition from printers, it seems reasonable to assume that the increase from 1915 to 1931 would in fact have been much greater than the increase, in competition with printers, from 1915 to 1922.

In summary: Expansion of telegraphic news service has been dependent in a measure on the printer telegraph; but it seems probable that the major part of the expansion has been due to other factors which, assuming the absence of the printer telegraph, would have been effective in a rapid extension of service by Morse operators. The expansion that would have taken place under Morse operation would undoubtedly have given employment to many times the estimated number of operators of printer telegraphs in the principal news-service organization.

Displacement of Labor by Installation of Automatic Grade-Crossing Devices

By Clyde M. Huber

IN DETERMINING the causes of unemployment, one of the major considerations of recent studies has been the large number of mechanized processes in all fields of labor. Machine production had formerly been studied more largely in its effects upon the worker, his productivity, his safety and that of others concerned, the quality of the product, and the changes in labor skill involved. The Bureau of Labor Statistics is now making available the results of a number of studies on technological unemployment in various industries.

The present article is a study of the introduction of automatic highway grade-crossing signals and the amount of technological unemployment in the group of workers classed as crossing watchmen, flagmen, and gatemen. It is found that the automatic signal is rapidly displacing the familiar crossing watchman and gateman and is offering protection at crossings that otherwise would have no protection beyond the fixed sign which is usually obligatory. The estimated number of additional employees required under complete manual operation of existing protective devices was 44,343, as of December 31, 1930. From 1924 to 1930, there was an actual decrease of 3,172 workers in this class. This decrease was steady and, according to the monthly reports of the United States Interstate Commerce Commission, continued during 1931. This decrease in number of workers occurred in spite of the fact that the total number of crossings protected increased from 26,991 in 1924 to 30,287 in 1930, and the total number of crossings, protected and unprotected, increased from 232,710 in 1924 to 240,673 in 1930. In large installations of the automatic signals the loss of employment opportunities ranges from 50 to 100 per cent of the workers required for complete manual protection. It is generally conceded, at the same time, that automatic protection for 24 hours a day is more efficient than part-time protection by manual operation of gates or by flagging. Elimination of crossings by grade separation also contributes to loss of employment opportunities for this class of workers, but this is largely counterbalanced by the employment opportunities created for other classes of workers, since a single project requires the expenditure of from a few thousand dollars to hundreds of thousands of dollars.

In this article a short sketch of the development of these automatic devices and their operation is given, along with a study of the changes taking place and a case study of actual displacements in representative installations.

Changes in Highway Grade-Crossing Protection

For about 100 years, the problem of the highway-railroad grade crossing has been one of increasing complexity and importance. As early as 1835 the State of Massachusetts required a uniform sign to be placed at every highway crossing. The sign, lettered on both sides, was placed on one side of the railroad; it extended across the highway and was supported by two posts, one at each side of the road. From

this early effort to warn persons crossing the railroad of the danger incurred and the responsibility assumed, to the modern methods of protection, there is a long history of gradual development and improvement.

In the days of low-speed trains and slow vehicular traffic on the highways it was sufficient to give warning of the presence of the railroad and directions to take proper precautions before crossing. Usually there was ample time to do so, and the fixed crossing sign served its purpose. As highway traffic grew heavier and train speeds increased, particularly dangerous crossings and important urban crossings were supplied with watchmen to give warning of the approach of a train and to stop highway traffic. Gates were later added, to assist in the protection, at many of the city street crossings. During this period many States, municipalities, and local governments passed ordinances of various kinds compelling the railroads to maintain certain kinds of protection or fixed sign warnings at crossings. Some cities required the railroads to maintain a gate and watchman at every street crossing the railroad. These demands for protection were brought about by alarmingly increasing numbers of accidents, both of pedestrians and of vehicles, at crossings.

Crossing gates, methods of flagging and warning, and fixed crossing signs have undergone many changes since then. The different States have prescribed different regulations, and the multiplicity of signs and signals required has caused considerable confusion, so that in the past decade important steps have been taken to secure uniform regulations.

The problem of the railroad grade crossing became further intensified with the introduction and increased use of the automobile. With increased highway speeds and volume of traffic, it became necessary to give a longer period of warning, to enable the operator of the automobile to slow down or stop; this was especially necessary where the view of the crossing was not clear for a considerable distance. Many accidents have occurred in which the car crashed into gates that were already lowered. For this reason advance-warning signs were added.

The principal development along the line of devices for highway grade-crossing protection has been the automatic signal. The invention that made possible these automatic devices was the track circuit, invented and used successfully by Dr. William Robinson in 1872. The track circuit was likewise the fundamental unit for automatic block signaling and interlocking systems. The first application of automatic warnings was an automatic bell set in operation by an approaching train by the track-circuit control. With the extended use of lights in signaling, visual signals also came into use, and more recently visual signals alone. The visual signals are fundamentally of two types, the so-called "wigwag," and the flashing-light signal. Automatic gates, operated by track circuit, have been introduced successfully.

The ideal solution of the problem seems to be the separation of grades. Much has been done along this line and millions of dollars have been provided annually by the railroads, States, local and Federal Governments, jointly, for the elimination of dangerous crossings. During the 6-year period, 1925 to 1930, a total of 1,573 crossings was eliminated by separation of grades, and many new highways were built on which no new crossings were constructed. Nevertheless, during the same period, the net number of crossings

each year increased rather than decreased. The enormity of the task is seen from the fact that, at the conservative estimate of $50,000 for each grade separation, it would require $12,600,000,000 for the elimination of all grade crossings on Class I steam railroads of the United States—approximately two-thirds of the total valuation of the railroads of the United States, as fixed by the Interstate Commerce Commission for rate-making purposes, as of 1924.

As new highways are built, and as the volume of traffic at existing crossings increases, the necessity for additional protection will be realized and more effective means for protection will be demanded. It is the purpose of this paper to study the extent to which automatic protective devices and grade separations are eliminating the manually operated gates, gatemen, flagmen, and watchmen, and to measure the employment opportunities lost thereby.

The changes discussed in this article may be summarized by the following general conclusions:

(1) The automatic signal is rapidly displacing the watchman and gateman at highway crossings.

(2) The estimated number of employment opportunities lost through the use of automatic signals and grade separations up to December 31, 1930, was 44,343.

(3) The percentage of displacement ranges from about 50 per cent, in the case of combined manual and automatic installations, to 100 per cent, in the case of complete automatic track-circuit control or of grade separation.

(4) Automatic protection for 24 hours a day is deemed of more value than part-time protection by watchmen and flagmen.

(5) A factor compensating to some extent for the employment opportunities lost by the introduction of automatic devices is found in the maintenance of the signals by other classes of workmen and in the furnishing of employment on extensive grade-separation projects.

Kinds of Protection

AN ESTIMATE of the comparative costs of the several methods of protection is given in the following table. The estimates are conservative averages of the costs found by signal engineers of the railroads.

TABLE 1.—COST OF SPECIFIED TYPES OF CROSSING PROTECTION [1]

Type of protection	Cost of installation	Yearly cost of maintenance, operation, depreciation, interest, and taxes.
Fixed crossing sign	$25	(2)
Automatic bell	1,050	$200
Automatic signal and bell	1,200	250
Flagman, 8-hour service		1,070
Flagman, 24-hour service		3,170
Crossing gates with watchman, 24-hour service		3,315
Grade separation	50,000	4,000

[1] Railway Age, Oct. 7, 1922, p. 641: "Highway Crossing Protection, Theory and Practice," by J. A. Peabody.

[2] Practically no expense.

For 24-hour manual operation of gates it is seen that the annual maintenance expense approaches that of grade separation. There is a great difference between the cost of 24-hour automatic protection and 24-hour manual flagging or operation of gates. The cost of even 8-hour manual protection also far exceeds the annual cost of 24-hour protection by automatic signals. The use of pneumatic power operation of gates has made possible the manual control of several sets of gates from one central tower. This method of protection is economical at crossings where several sets of gates, each set with a separate gateman, would be necessary for the proper protection of the crossing.

Types of Automatic Signals

Practically all of the different automatic highway-crossing signals developed depend upon the closed track circuit for their operation, just as do the automatic block and interlocking systems. The track circuit used to-day embodies the same principles as that first installed by Doctor Robinson. An essential feature is the insulation of a particular section of track from an adjoining section. Current is supplied from some source, usually a battery, the positive terminal being connected to one rail (in the simplest system) and the negative terminal to the other rail at one end of the insulated section. At the other end of the insulated section the tracks are connected to a relay which in turn is connected to the signal. A continuous-closed circuit maintained through the rails of the track in this section energizes a magnet which holds the signal in "clear" position. When a train or single car enters the particular section of track it short-circuits through its wheels the current which is energizing the magnet and the signal goes to "stop" position by gravity. In this way the moving train or car continuously operates from one section to another the signals controlled by the circuit in the section of track over which the wheels are going.

The automatic signals themselves are of various aspects and types of mechanical operation. The signal section of the American Railway Association has adopted two types as standard—the wigwag and the flashing-light signal—and has standardized the specifications for these signals as well as for standard fixed signs. The wigwag signal consists of a disk with a red light, mounted on an arm which normally hangs vertically, but which, when actuated by the track-circuit mechanism, swings back and forth, presenting to approaching traffic the aspect of a horizontally swinging light or signal. The flashing-light signal consists of two red lights mounted on a horizontal arm at right angles to the highway. When the signal is actuated the lights flash alternately, also presenting the aspect of a horizontally swinging red light. In addition to the visual warning, a bell may also be used; in some States this is required by statute. These standard signals are being adopted and installed in the most recent projects of the leading railroads.

Another recent automatic feature is the automatic-crossing gate. One type is electrically controlled and is operated by hydraulic action. Automatic operation may be secured through the track circuit, rail or trolley contacts, or other devices, depending on conditions. Each gate arm is operated by a piston which acts in a cylinder to which the

hydraulic fluid is transmitted from a hydraulic pump in a central master-control unit. The pump operates only when lowering the gates, and an electric valve holds the gates in the lowered position while its solenoid is energized. When the solenoid is de-energized, the gates are automatically restored to the clear position by gravity. The gate arms are hinged vertically on a head which is free to rotate through an angle of 90 degrees in either direction, or both directions. This makes it possible for a vehicle which is caught between the gates to push its way through without damage to either the gates or the vehicle. For this device, as well as for all other automatic methods of protection, provision is made for manual or automatic control, or a combination of both. During the year 1930 the railroads installed 54 gates automatically operated.

One novel automatic development which has not come into extensive use is the yielding positive barrier. This barrier operates up and down across the highway in much the same way as the single-arm crossing gate. It consists essentially of a barrier cable carried across the highway by a barrier arm; a pedestal which supports the pivoted end of the barrier arm and houses the mechanism for its operation; and a hydraulic snubber device over which the free end of the barrier arm locks when the arm is in lowered position across the highway. An automobile may run into this barrier at the speed of 40 miles an hour and be brought to stop without injury to the vehicle or its occupants.

There are, then, three distinct types of automatic highway grade-crossing protection as follows: The "wigwag" signal, with or without audible warning; the flashing-light signal, also with optional audible warning; and the automatic gate, which may combine the flashing-light signal on the cross arm, with or without audible warning.

Some States require by statute that the word "STOP" shall be illuminated or brought into evidence when the signal is operating. One type, called the "rotating disk," has as a feature a yellow octagonal "STOP" sign which is turned parallel to the highway normally, but is brought to a position at right angles to the traffic when a train is approaching. A motor turns the disk; the signal is held in position by a compound-wound magnet, and is released to a stop position by a weight lifted by the operation of the motor. Other types spell out the word "STOP" by reflector buttons, white on red background, or vice versa.

Table 2 shows the changes that took place in crossings classified as "protected" and "unprotected" on Class I steam railroads of the United States from 1924 to 1930, as given in the annual reports of the Interstate Commerce Commission on "Statistics of Railways of the United States."

The number of crossings with gates operated 24 hours per day remained practically the same over the period covered by the above table, as did the number of crossings with watchmen on duty 24 hours per day. The number of crossings with gates operated less than 24 hours per day decreased 35 per cent during the same period, while the number of crossings with watchmen on duty less than 24 hours per day decreased 20 per cent. These changes took place largely because of the introduction of automatic signals.

TABLE 2.—NUMBER AND PER CENT OF GRADE CROSSINGS WITH SPECIFIED PROTECTION ON DECEMBER 31 OF EACH YEAR, 1924 TO 1930

Number

Type of crossing	1924	1925	1926	1927	1928	1929	1930
Manually protected:							
Gates, with or without other protection, operated—							
24 hours a day	3,224	3,395	3,347	3,286	3,232	3,168	2,947
Less than 24 hours a day	3,192	2,925	2,823	2,671	2,475	2,288	2,060
Total	6,416	6,320	6,170	5,957	5,707	5,456	5,007
Watchmen, with protection other than gates, on duty—							
24 hours a day	1,274	1,272	1,303	1,287	1,303	1,258	1,260
Less than 24 hours a day	6,816	6,635	6,462	6,267	5,994	5,779	5,454
Total	8,090	7,907	7,765	7,554	7,297	7,037	6,714
Total, manual	14,506	14,227	13,935	13,511	13,004	12,493	11,721
Automatically protected:							
Audible and visible signals	5,234	5,742	6,459	7,376	8,004	8,815	9,139
Audible signals only	5,991	5,668	5,327	4,900	4,572	4,244	3,959
Visible signals only	1,260	1,604	2,206	2,937	3,635	4,638	5,468
Total, automatic	12,485	13,014	13,992	15,213	16,211	17,697	18,566
Total, protected	26,991	27,241	27,927	28,724	29,215	30,190	30,287
Unprotected:							
Special fixed signs or barriers with or without standard fixed signs	20,521	24,259	29,366	31,845	34,508	36,275	35,543
Standard fixed signs only	185,198	182,133	173,254	171,972	171,425	171,879	170,191
Total	205,719	206,392	202,620	203,817	205,933	208,154	205,734
Other			4,611	3,742	4,941	4,465	4,652
Total, unprotected	205,719	206,392	207,231	207,559	210,874	212,619	210,386
Grand total	232,710	233,633	235,158	236,283	240,089	242,809	240,673

Per cent

Type of crossing	1924	1925	1926	1927	1928	1929	1930
Manually protected:							
Gates, with or without other protection, operated—							
24 hours a day	11.9	12.5	12.0	11.4	11.1	10.5	9.7
Less than 24 hours a day	11.8	10.7	10.1	9.3	8.5	7.6	6.8
Total	23.8	23.2	22.1	20.7	19.5	18.1	16.5
Watchmen, with protection other than gates, on duty—							
24 hours a day	4.7	4.7	4.7	4.5	4.5	4.2	4.2
Less than 24 hours a day	25.3	24.4	23.1	21.8	20.5	19.1	18.0
Total	30.0	29.0	27.8	26.3	25.0	23.3	22.2
Total, manual	53.7	52.2	49.9	47.0	44.5	41.4	38.7
Automatically protected:							
Audible and visible signals	19.4	21.1	23.1	25.7	27.4	29.2	30.2
Audible signals only	22.2	20.8	19.1	17.1	15.6	14.1	13.1
Visible signals only	4.7	5.9	7.9	10.2	12.4	15.4	18.1
Total, automatic	46.3	47.8	50.1	53.0	55.5	58.6	61.3
Total, protected	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The number of crossings protected by audible signals only decreased markedly during this period. The number of automatic signals combining the audible and visible warning increased 75 per cent over the number in 1924, while the number of crossings protected by visible automatic signals only more than quadrupled during the same period.

The development of the closed-body type of automobile, with the accompanying increase in volume of winter driving, made the bell warning only very inadequate. The total increase in the number of crossings with automatic signals from 1924 to 1930 was 49 per cent.

Beginning with the year 1926, the Interstate Commerce Commission made a new classification, called "otherwise unprotected," which accounts for the sudden decrease of 8,879 crossings with standard fixed signs only from 1925 to 1926, many of which had previously fallen in this class. The number of crossings with fixed signs only remained approximately the same from 1926 onward, special fixed signs largely taking the places of standard fixed crossing signs only. This was due to the fact that special barriers, such as humps or turns in the roadway and barriers in the center of the highway, calculated to enforce reduction of speed before approaching the crossing, found favor with many signal and highway engineers.

As the second half of Table 2 shows, of the total number of protected crossings, 53.7 per cent were manually protected at the beginning of the period under discussion, whereas only 38.7 per cent were so protected at the end of the period. The per cent of the total that were automatically protected increased from 46.3 to 61.3 per cent.

The statement below shows the total number of crossings eliminated by grade separation during the period 1925 to 1930:

	Number
1925	185
1926	195
1927	245
1928	270
1929	275
1930	403
Total	1,573

Loss of Employment Opportunities for Crossing Watchmen since 1924

TABLE 3 below gives the number of flagmen and gatemen employed each year from 1924 to 1930 as given in the Interstate Commerce Commission reports on wage statistics. In estimating technological displacement, or loss of employment opportunities, it is necessary to compare the numbers actually employed (Table 3) with the numbers which would be necessary if the crossings now protected by automatic signals and by grade separation (Table 2) were manually protected. Crossings eliminated by grade separation are usually classed as dangerous crossings before elimination, and most of the crossings so affected would have required 24-hour protection had they not been eliminated. Each grade crossing eliminated may then be counted as a loss of employment opportunity for crossing watchmen. No consideration in the following table is taken of the fact that the grade-separation project creates opportunity for employment of other classes of workers. Likewise, in the calculation of the number of employment opportunities lost by the introduction of automatic signals, no account has been taken of employment opportunities created for signal maintainers and repairmen. A conservative estimate of displacement is nevertheless obtained, since the classification of the reports of the Interstate Commerce Commission include flagmen and gatemen at bridges not classed as highway crossings. These factors are assumed to be approximately compensating.

The basic data for the determination of the number of watchmen required, without the use of automatic signals, to furnish the total amount of protection actually given for the number of crossings of each class, are found in Table 2. The total number of crossings at which part-time protection is afforded is multiplied by the factor 1.25 to obtain the estimated number of watchmen required for those crossings. The hours of protection range from 8 to 16, and in many cases the watchman is on duty 12 hours. A more exact measure of the amount of protection would be in man-hours per day, but the wages paid and reports to the Interstate Commerce Commission are in terms of days without specification of the number of hours each watchman is on duty. For 24-hour protection the factor 2.25 per crossing was used, again because of lack of uniformity in using three 8-hour shifts at some crossings and two 12-hour shifts at others. The same factor was used in estimating the number of employment opportunities lost by grade separation.

TABLE 3.—CHANGES IN EMPLOYMENT OPPORTUNITES, 1924 TO 1930

Year	Number of employees		Number of employment opportunities lost		
	Average actually on duty	Required without automatic signals (estimated)	Due to automatic signals (estimated)	Due to grade separation	Total
1924	23,007	50,721	27,714	----------	27,714
1925	22,682	51,790	29,108	416	29,524
1926	22,315	53,550	31,235	854	32,089
1927	21,891	55,690	33,799	1,405	35,204
1928	21,240	58,783	37,543	2,012	39,555
1929	20,602	59,860	39,258	2,631	41,889
1930	19,835	60,630	40,805	3,538	44,343

The actual number of employees classed as flagmen and gatemen decreased from 23,007 in 1924 to 19,835 in 1930. This decrease can not be said to be due to a general decrease in employment for the following reasons: (1) It covers a period of general expansion and prosperity; (2) the number of crossings protected actually increased steadily during this period, even after deducting the number of crossings eliminated by grade separation; and (3) the protection of crossings is a fixed charge and does not depend upon the volume of railroad traffic.

Actual Displacements by Automatic Devices

BELOW are given a few instances of actual displacements caused by the installation of automatic devices, and of the resultant wage saving to the companies concerned, as reported in the various issues of the Railway Age.

During the 5-year period ending December 31, 1925, one railroad equipped 42 crossings with automatic flashing-light signals, removing from duty by this installation 93 watchmen, or an average of 2.21 per crossing. The actual cost of installation was $71,170.45, making an average of $1,694.53 per crossing. The savings made by elimination of watchmen's wages and cost of housing amounted to $89,502.55. The estimated annual cost of maintenance and operating expense,

interest, depreciation and taxes was slightly over $18,000. There was, therefore, a net annual saving of $71,000.

In 1926 the Transit Commission of New York investigated conditions at a large number of crossings on the Long Island Railroad in Brooklyn and Queens. Visible and audible signals of the flashing-light type were ordered installed at 19 crossings, all of which had previously had gates with attendants on duty 24 hours a day. Inspectors of the commission reported that at the 85 crossings examined between the hours of 1 a. m. and 5 a. m., 18 watchmen were found sleeping at their posts. Fatigue due to long hours on duty is responsible for much of the neglect of the human watchman, for in the past many shifts consisted of 12 continuous hours on duty. Similar investigations and experiments of other local and State regulating bodies at the instigation of the railroads have reported that the automatic signal on duty 24 hours per day was more effective than the human watchman.

Traffic-type signal lights of the same design as that used by the city were installed at Beaumont, Tex., by the Gulf, Colorado & Santa Fe Railway Co., in cooperation with the city authorities. The city had ordered that all trains must stop at each street crossing and a flagman must proceed ahead to control the crossing. The signals were installed at 10 crossings and the control was located in a central tower, the two signals at each crossing being operated by separate knife switches mounted in a row and distinctly marked. As the tower was so located that all crossings could not be seen, an illuminated track diagram was constructed and placed over the switches in the tower. In this case the lights on the track diagram are controlled by track circuits, so as to show to the towerman the location of each train. The signals are normally kept at green, but when a train is approaching a crossing the towerman operates the switch controlling the signals at that crossing displaying a red "stop" signal and ringing a warning bell. The observance of these traffic lights is checked at intervals by a regular city traffic officer.

At Wabash, Ind., flashing-light signals were installed at 13 street crossings, replacing gates and flagmen at 9 and flagmen at 2 crossings and affording protection at 2 crossings where none had existed before. The number of jobs eliminated was 11, making a pay-roll saving of $7,800 annually. In this installation combined manual and automatic control was used on account of switching operations. Normal control is by track circuit, but during the time that freight trains are switching, the signal maintainer's helper, having previously been notified of the time and nature of switching operations, controls the signals at 8 of the crossings from an elevated tower from which all the crossings can be seen.

As a part of the installation of a power switch machine to operate the junction switch of the Chicago, Rock Island & Pacific Railway Co. and the Chicago, Milwaukee & St. Paul Railway Co. at Cedar Rapids, Iowa, and interlocked signals to direct train movements over the crossing without stopping, flagmen at 4 crossings were replaced by 8 flashing-light signals controlled by a regular signal operator. By the reorganization, 3 signal operators were employed and 10 crossing watchmen dispensed with, resulting in a net wage saving of $2,589 a year.

Power-operated gates, with central control features, were installed at 39 crossings in the South Chicago and Blue Island districts of the Chicago terminal of the Illinois Central Railroad Co., where suburban trains operate in large part through city streets. With the power-operated gates several crossings could be controlled by one watchman; thus only 57 watchmen were needed as against 111 under manual operation. In this case 3 sets of 4 gates each are operated from one elevated tower from which a good view of the crossings can be obtained. A motor-operated air blower, which exhausts air at any pressure desired up to 14 pounds, is located in the towerman's cabin. Air is fed to one side of the diaphragm, operating in a cylinder, through 4-way cocks, thus allowing the operator to admit air to one side and exhaust it from the other. A simple push-button type of motor controller governs the starting and stopping of the air unit.

At De Kalb, Ill., the Chicago & North Western Railway Co., by agreement with the city, removed the existing crossing protection (including gates at some crossings and flagmen at others) and installed electric wigwag signals at all such crossings except one. The exception was the intersection of the Lincoln Highway with Fourth Street, where the railroad crossed both streets at an angle of about 45°. At this intersection four regular traffic lights were placed. These signals operate ordinarily as highway traffic signals, but when the signal controller for the railroad, in the operating tower about 100 feet from the crossing, sees a train approaching, he throws a switch which sets all four traffic signals at "STOP." At the other street crossings automatic track circuit control was not used, on account of switching operations, but the signal operation is controlled from centrally located towers and one man can operate the wigwag signals at several crossings. By the new equipment the force required for operation was reduced from 27 to 9 men.

The Indianapolis Union Railway installed standard flashing-light signals at 27 of a total of 30 crossings in Indianapolis. Of these, 17 replaced flagmen, 6 replaced gates and watchmen, and 4 were installed at crossings previously unprotected; at the remaining 3 crossings, protected by flagmen, no change was made. The signals at 23 crossings are operated manually because of switching movements. When possible, the signals at two or more crossings are arranged for operation from a central tower, with the result that one man is required at each of 13 towers. At two of the crossings manual control is used for an 8-hour period during which switching is done, while at all other times control from track circuits is used. Signals at two crossings are operated automatically from track circuits at all times. The signal protection requires 44 employees, whereas 64 men were formerly required for flagging the 20 crossings and operating the 6 sets of gates. The reduction in the number of men resulted in a saving in wage payments of $16,000 a year.

The above instances are representative of the projects in which the automatic signal displaces the flagman and crossing watchman. The percentage of displacement ranges from about 50 per cent in the manually controlled signal systems to 100 per cent in the systems under complete track circuit control. Local conditions determine largely the amount of manual control necessary, as seen from the examples cited.

Attitude of Courts Toward Automatic Protective Devices

IN STATES in which the method of protection has been prescribed by law, the courts have been called upon to decide the legality of the replacement of the human watchman by automatic signals at highway crossings. The Public Service Commission of the State of New Hampshire rendered a decision in 1922 in favor of the automatic protection. At Newfields a crossing on the Boston & Maine Railroad had been protected for 50 years by gates with an attendant on duty 12 hours a day. The company announced the intention of doing away with the gates and human watchman, and of installing an automatic wigwag, flasher, and bell warning. The selectmen and citizens of the town entered protest with the commission and a hearing was held on October 2, 1922. The commission upheld the company, saying unequivocally that "a good visual and audible signal, on a post, in service 24 hours a day, is a better watchman than the human attendant on duty 12 hours a day. It [the automatic flagman] has met with universal approval by all regulatory bodies and is fast displacing the gate and human flagman."

The United States Supreme Court laid down an important principle in the matter of the legality of the use of automatic warning devices instead of the watchman and gates where such protection is prescribed by statute. Memphis, Tenn., passed an ordinance in 1880, requiring the railroad to maintain a flagman constantly on duty at all streets crossed by the railroad at grade. At a certain crossing, along with other crossings, the Nashville, Chattanooga & St. Louis Railway had installed an automatic signal set in operation by track circuit control by approaching trains. In an appeal from a judgment awarded to the plaintiffs in the case of an accident at the crossing the Tennessee Supreme Court held that, while the occupants of the automobile that was struck knew that the railroad did not maintain a (human) flagman at the crossing and they were grossly negligent in going upon the track, the proximate cause of injuries sustained was the failure of the railroad to comply with the ordinance. The United States Supreme Court took the same view in an opinion handed down by Mr. Justice Holmes, February 18, 1929. This makes it incumbent upon the railroad wishing to install automatic protection either to secure the repeal of old legislation prescribing human attendants at a crossing or to secure the cooperation of the proper regulatory body.

EMPLOYMENT CONDITIONS

Unemployment in Syracuse, N. Y., November, 1931

By Frederick E. Croxton and John Nye Webb, Columbia University

IN THE February, 1932, issue of the Labor Review results were shown of an unemployment study conducted in Buffalo, N. Y., in the first week of November, 1931. In the city of Syracuse a comparable study of unemployment was made simultaneously with the one in Buffalo.[1] The investigation in Syracuse, directed by Mr. Webb, was under the auspices of the New York State Department of Labor, with the cooperation of the Associated Charities of Syracuse and of students of Syracuse University. Upon the recommendation of the associated charities seven representative areas were selected for study. Students of Syracuse University acted as enumerators, collecting data by house-to-house visits. Assistance was had also from volunteer social workers and paid enumerators. The Syracuse study represents a first attempt to measure unemployment in that city, while the previously discussed Buffalo study was the third of a series begun in 1929.

The study in Syracuse showed that, of the males able and willing to work, 19.9 per cent were totally unemployed when the enumeration was made in 1931, and an additional 20.7 per cent were employed only part time.

Of the females able and willing to work, 17.8 per cent were wholly unemployed and 16.9 per cent more were working only part time.

Among the unemployed persons able and willing to work, 39.6 per cent of the men and 54.4 per cent of the women had been out of work for from 4 to 30 weeks, while 41.0 per cent of the men and 29.9 per cent of the women had had no work for a year or more.

Methods and Scope of Study

The data were gathered as of November 2. The field workers were given detailed, printed instructions supplemented by oral explanation, and their work was closely supervised. Data were requested for all males 18 years of age or over (except those in school) and for all females 18 years of age or over who were usually employed in gainful occupations. Thus, all housewives were omitted, as were also all women who worked outside the home on a part-time basis in addition to their housework. The schedule used requested information for each person as to relation to head of household, sex, age, nativity, present or last employer, industry and occupation, employment status, and whether able to work and willing to work. The inquiry in regard to employment status classified each person as to whether he was employed full time or, if employed less than full time, what fraction of the usual full time or, if unemployed, how long had unemployment continued,

[1] Detailed results of the Buffalo studies are given in full in Special Bulletin No. 172 of the New York State Department of Labor. Results of the Syracuse study may be found in Special Bulletin No. 173 of the same department.

and why was he out of work. The reason for being unemployed referred to the reason why an individual was unable to find a job rather than to the cause of losing his last job. The above procedure was identical in every respect with that used in the Buffalo study of the same date.

The study included 7,302 persons of both sexes, 77.2 per cent of whom were males and 22.8 per cent of whom were females. Table 1, which follows, shows the nativity distribution of the persons enumerated in Syracuse in comparison with the nativity distribution of occupied persons in Syracuse as shown by the census of 1920. Census data for 1930 were not available at the time of writing and, it is understood, will not be ready until April, 1932. As would be expected, the proportion of native whites included in the Syracuse study in 1931 was considerably higher than was shown in the census of 1920; likewise, the proportion of foreign born in the Syracuse study was lower than shown by the census.

TABLE 1.—NATIVITY OF PERSONS ENUMERATED IN SYRACUSE IN 1931 AND OF OCCUPIED PERSONS 18 YEARS OF AGE AND OVER IN SYRACUSE REPORTED BY THE UNITED STATES CENSUS (1920),[1] BY SEX

[Does not include 33 persons (24 males and 9 females) not reporting as to nativity]

Nativity	Males		Females		Both sexes	
	Syracuse study	Census of 1920[1]	Syracuse study	Census of 1920[1]	Syracuse study	Census of 1920[1]
	Number					
Native white[2]	4,323	40,509	1,419	14,691	5,742	55,200
Native colored	125	526	64	185	189	711
Foreign born	1,167	15,621	171	2,295	1,338	17,916
Total	5,615	56,656	1,654	17,171	7,269	73,827
	Per cent					
Native white	77.0	71.5	85.8	85.5	79.0	74.8
Native colored	2.2	.9	3.9	1.1	2.6	.9
Foreign born	20.8	27.6	10.3	13.4	18.4	24.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Fourteenth Census of the United States, vol. 4 (occupations), p. 465.
[2] Includes 3 persons—2 males and 1 female—native-born Indians.

Table 2 presents the industry distribution of all persons enumerated, of both sexes. It shows that slightly more than one-third of the persons enumerated in Syracuse were engaged in manufacturing and mechanical pursuits. Approximately two-sevenths were engaged in trade and transportation, and very nearly one-seventh were engaged in retail and wholesale trade.

TABLE 2.—INDUSTRY DISTRIBUTION OF ALL PERSONS ENUMERATED IN SYRACUSE, 1931 STUDY

[Does not include 143 persons not reporting as to industry]

Industry group	Number of persons	Per cent of total	Industry group	Number of persons	Per cent of total
Professional	519	7.3	Manufacturing and mechanical pursuits—Continued		
Clerical, not otherwise specified	58	.8	Clay, glass, and stone products	94	1.3
Domestic and personal service	646	9.0	Food and kindred products	189	2.6
Government employees (other than teachers)	558	7.8	Iron, steel, and their products	658	9.2
Trade and transportation	2,058	28.8	Metal products, other than iron and steel	43	.6
Retail and wholesale trade	1,025	14.3	Paper, printing, and publishing	162	2.3
Telephone and telegraph	112	1.6	Wearing apparel and textiles	174	2.4
Railway, express, gas, electric light	523	7.3	Automobiles, parts, and tires	322	4.5
Water transportation	3	(1)	Lumber and furniture	87	1.2
Bank and brokerage	82	1.2	Chemicals	150	2.1
Insurance and real estate	196	2.7	Other	184	2.6
Other	117	1.6	Labor, not otherwise specified	45	.6
Manufacturing and mechanical pursuits	2,535	35.4	Self-employed	689	9.6
Building trades, contractors	171	2.4	Miscellaneous	51	.7
Building trades, wage earners	301	4.2	Total, all industries	7,159	100.0

[1] Less than one-tenth of 1 per cent.

Employment Status

THE employment status of all persons enumerated is given in Table 3. This table includes not only those persons who were able and willing to work but also those males and females who were temporarily unable to work and those males who were permanently unable to work and unwilling to work. Of all males enumerated, it appears that 57 per cent were employed full time, 19.9 per cent were employed part time, and 23.1 per cent were unemployed for various reasons. Approximately one-fifth of all males enumerated were able and willing to work but unable to find jobs. Of all males enumerated, 1.8 per cent were unwilling to work, 1.7 per cent were permanently unable to work, and five-tenths of 1 per cent were temporarily unable to work.

TABLE 3.—EMPLOYMENT STATUS OF ALL PERSONS ENUMERATED, BY SEX, 1931

[Does not include 1 male not reporting as to cause of unemployment]

Employment status	Number			Per cent		
	Males	Females	Both sexes	Males	Females	Both sexes
Employed full time	3,211	1,074	4,285	57.0	64.6	58.7
Employed part time	1,121	278	1,399	19.9	16.7	19.2
Two-thirds but less than full time	353	56	409	6.3	3.4	5.6
One-half but less than two-thirds	385	97	482	6.8	5.8	6.6
One-third but less than one-half	172	51	223	3.1	3.1	3.1
Less than one-third	181	62	243	3.2	3.7	3.3
Fraction not reported	30	12	42	.5	.7	.6
Unemployed	1,306	311	1,617	23.1	18.7	22.1
Able and willing to work	1,079	292	1,371	19.1	17.6	18.7
Temporarily unable to work	31	19	50	.5	1.1	.7
Permanently unable to work	94	----------	94	1.7	----------	1.3
Unwilling to work	102	----------	102	1.8	----------	1.4
Total	5,638	1,663	7,301	100.0	100.0	100.0

In Table 4 data are shown of the employment status of all persons enumerated who were able and willing to work. This table excludes

those persons who were either unable or unwilling to work. These data reveal that almost exactly 1 male out of every 5 who were able and willing to work was unable to locate a job, that 1 out of 5 was employed part time, and that 3 out of 5 were fully employed. In the case of females who were able and willing to work, just over one-sixth were unable to find work, almost exactly one-sixth were employed part time, and very close to two-thirds were fully employed. For both males and females, Syracuse showed a larger proportion employed full time and a smaller proportion unable to find work than was found for Buffalo.

A very rough attempt to express the amount of employment present among the persons in Syracuse who were able and willing to work may be made by expressing part-time employment in terms of its equivalent full time. Thus, a group of six men working "two-thirds, but less than full time," would be approximately equivalent, in point of time employed, to five men fully employed and one unemployed. If all part-time groups be reduced to equivalent full time, it appears that the persons enumerated in Syracuse as able and willing to work had 71.9 per cent of full-time employment.

No data are included in this article of the employment status of heads of households. Tables dealing with this group will be found in Bulletin No. 173 of the Division of Statistics and Information of the New York State Department of Labor. In Syracuse it was found (as in Buffalo) that male heads of households who were able and willing to work showed larger proportions employed full time and part time, and a smaller proportion unemployed than did all males who were able and willing to work.

TABLE 4.—EMPLOYMENT STATUS OF ALL PERSONS ABLE AND WILLING TO WORK, BY SEX, 1931

Employment status	Number			Per cent		
	Males	Females	Both sexes	Males	Females	Both sexes
Employed full time	3,211	1,074	4,285	59.4	65.3	60.8
Employed part time	1,121	278	1,399	20.7	16.9	19.8
Two-thirds but less than full time	353	56	409	6.5	3.4	5.8
One-half but less than two-thirds	385	97	482	7.1	5.9	6.8
One-third but less than one-half	172	51	223	3.2	3.1	3.2
Less than one-third	181	62	243	3.3	3.8	3.4
Fraction not reported	30	12	42	0.6	0.7	0.6
Unemployed able and willing to work	1,079	292	1,371	19.9	17.8	19.4
Total	5,411	1,644	7,055	100.0	100.0	100.0

Employment status by general nativity groups is shown in Table 5. Among the males who were able and willing to work, full-time employment was greatest among the native whites and least among the native colored, part-time employment was least for the native whites and greatest for the foreign born, and unemployment was least for the native whites and greatest for the native colored. Considering the females who were able and willing to work, it was found that the native white females showed a higher proportion employed full time than did the foreign born, while the foreign born showed larger proportions employed part time and unemployed than did the native whites. Too few native colored females were included to warrant any conclusion concerning the employment status of that group.

TABLE 5.—EMPLOYMENT STATUS OF ALL PERSONS ABLE AND WILLING TO WORK, BY NATIVITY AND SEX, 1931

[Does not include 30 persons (21 males and 9 females) not reporting as to nativity]

Sex and employment status	Number			Per cent		
	Native born		Foreign born	Native born		Foreign born
	White	Colored		White	Colored	
Males						
Employed:						
Full time	2,663	48	485	64.0	39.0	43.8
Part time	777	28	312	18.7	22.8	28.2
Unemployed	720	47	310	17.3	38.2	28.0
Total, males	4,160	123	1,107	100.0	100.0	100.0
Females						
Employed:						
Full time	959	27	84	68.4	42.2	50.0
Part time	214	13	49	15.2	20.3	29.2
Unemployed	230	24	35	16.4	37.5	20.8
Total, females	1,403	64	168	100.0	100.0	100.0
Both sexes						
Employed:						
Full time	3,622	75	569	65.1	40.1	44.6
Part time	991	41	361	17.8	21.9	28.3
Unemployed	950	71	345	17.1	38.0	27.1
Total, both sexes	5,563	187	1,275	100.0	100.0	100.0

Table 6 presents figures of employment status by age groups for the males who were able and willing to work. The percentage data of this table show for each age group the proportions of males in that group who were employed full time, part time, and unemployed. The smallest proportion unemployed was found in age group 30 and under 35. There was a rather clear tendency for the proportion unemployed to increase according as the groups considered were either older or younger. The greatest proportions of unemployed were found among the very young and the very old. Full-time employment was greatest for the males aged 30 and under 35, while the least full-time employment was found among the youngest and oldest groups.

TABLE 6.—EMPLOYMENT STATUS OF MALES ABLE AND WILLING TO WORK, BY AGE GROUPS, 1931

[Does not include 39 males not reporting as to age]

Age group	Employed full time		Employed part time		Unemployed		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Under 20 years	51	39.8	27	21.1	50	39.1	128	100.0
20 and under 25 years	236	49.6	91	19.1	149	31.3	476	100.0
25 and under 30 years	352	62.1	110	19.4	105	18.5	567	100.0
30 and under 35 years	445	67.7	119	18.1	93	14.2	657	100.0
35 and under 40 years	498	63.4	150	19.1	137	17.5	785	100.0
40 and under 45 years	445	60.4	168	22.8	124	16.8	737	100.0
45 and under 50 years	397	58.9	149	22.1	128	19.0	674	100.0
50 and under 55 years	329	58.6	121	21.6	111	19.8	561	100.0
55 and under 60 years	193	55.2	82	23.4	75	21.4	350	100.0
60 and under 65 years	133	59.6	45	20.2	45	20.2	223	100.0
65 and under 70 years	73	53.3	28	20.4	36	26.3	137	100.0
70 years and over	34	44.1	20	26.0	23	29.9	77	100.0
Total	3,186	59.3	1,110	20.7	1,076	20.0	5,372	100.0

Part-Time Employment

DATA of part-time employment of males and females are given in Table 7. Among the males, approximately two-thirds of those employed less than full time were employed one-half or more of normal full time, while approximately one-third were employed less than half time. The females employed part time showed approximately four-sevenths employed one-half time or more, and about three-sevenths employed less than half time.

TABLE 7.—PART-TIME EMPLOYMENT, BY SEX, 1931

[Does not include 42 persons (30 males and 12 females) not reporting as to fraction of time employed]

Time employed	Number			Per cent		
	Males	Females	Both sexes	Males	Females	Both sexes
Two-thirds but less than full time	353	56	409	32.3	21.0	30.1
One-half but less than two-thirds	385	97	482	35.3	36.5	35.5
One-third but less than one-half	172	51	223	15.8	19.2	16.5
Less than one-third	181	62	243	16.6	23.3	17.9
Total	1,091	266	1,357	100.0	100.0	100.0

Cause of Unemployment

IN Table 8 are shown data of the employment status and detailed cause of unemployment of all males enumerated. Each class of the unemployed males is shown as a percentage of all males enumerated. Several rather interesting similarities are found if the data in this table be compared with similar data obtained in Buffalo. For example: Each city showed one-tenth of 1 per cent of the males enumerated to be unemployed because of temporary injury; Syracuse showed four-tenths of 1 per cent, and Buffalo six-tenths of 1 per cent, unemployed because of temporary sickness; Syracuse revealed seven-tenths of 1 per cent, and Buffalo eight-tenths of 1 per cent, unemployed because of permanent sickness; Syracuse showed seven-tenths of 1 per cent, and Buffalo six-tenths of 1 per cent, permanently unable to work because of old age; Syracuse reported 1.8 per cent, and Buffalo 1.9 per cent, voluntarily retired.

TABLE 8.—EMPLOYMENT STATUS AND CAUSE OF UNEMPLOYMENT OF ALL MALES ENUMERATED, 1931

[Does not include 1 male, not reporting as to cause of unemployment]

Employment status and cause of unemployment	Number	Per cent	Employment status and cause of unemployment	Number	Per cent
Employed:			Unemployed—Continued.		
Full time	3,211	57.0	Permanently unable to work	94	1.7
Part time	1,121	19.9	Sickness	37	.7
Unemployed	1,306	23.1	Injury	19	.3
Able and willing to work	1,079	19.1	Old age	37	.7
Slack work	1,068	18.9	Miscellaneous	1	(1)
Forced retirement	2	(1)	Unwilling to work	102	1.8
Miscellaneous	9	.2	Voluntary retirement	101	1.8
Temporarily unable to work	31	.5	Lazy or indifferent	1	(1)
Sickness	25	.4	Miscellaneous		
Injury	6	.1	Total	5,638	100.0

[1] Less than one-tenth of 1 per cent.

The various classes of the unemployed males are shown in Table 9 in relation to the number of males unemployed from all causes. The proportion of unemployed males who were out of work because of slack work was 81.8 per cent. It is a rather interesting coincidence that exactly this same proportion was found for Buffalo. Furthermore, the males unemployed because of temporary sickness, temporary injury, permanent sickness, and permanent injury each represented very nearly the same proportions in the two cities.

TABLE 9.—CAUSE OF UNEMPLOYMENT OF ALL UNEMPLOYED MALES ENUMERATED, 1931

[Does not include 1 male not reporting as to cause of unemployment]

Cause of unemployment	Number	Per cent	Cause of unemployment	Number	Per cent
Able and willing to work	1,079	82.6	Permanently unable to work—Continued		
Slack work	1,068	81.8	Old age	37	2.8
Forced retirement	2	(1)	Miscellaneous	1	(1)
Miscellaneous	9	.7	Unwilling to work	102	7.8
Temporarily unable to work	31	2.4	Voluntary retirement	101	7.7
Sickness	25	1.9	Lazy or indifferent	1	(1)
Injury	6	.5	Miscellaneous		
Permanently unable to work	94	7.2			
Sickness	37	2.8			
Injury	19	1.5	Total	1,306	100.0

[1] Less than one-tenth of 1 per cent.

Duration of Unemployment

DATA of the duration of unemployment of all unemployed persons who were able and willing to work are shown in Table 10. Cumulating certain of the figures for the unemployed males who were able and willing to work shows that about three-fourths had been out of work 10 weeks or more, just over one-half had been out of a job 30 weeks or more, and almost exactly two-fifths had been out of work a year or more. The duration of unemployment had been, in general, somewhat less in Syracuse than in Buffalo.

TABLE 10.—DURATION OF UNEMPLOYMENT OF ALL UNEMPLOYED PERSONS ABLE AND WILLING TO WORK, BY SEX, 1931

[Does not include 28 persons (17 males and 11 females) not reporting as to duration of unemployment]

Duration of unemployment	Number			Per cent		
	Males	Females	Both sexes	Males	Females	Both sexes
Under 2 weeks	32	5	37	3.0	1.8	2.8
2 and under 4 weeks	57	12	69	5.4	4.3	5.1
4 and under 10 weeks	162	61	223	15.2	21.7	16.6
10 and under 20 weeks	123	44	167	11.6	15.6	12.4
20 and under 30 weeks	136	48	184	12.8	17.1	13.7
30 and under 40 weeks	61	17	78	5.7	6.0	5.8
40 and under 52 weeks	56	10	66	5.3	3.6	4.9
52 weeks and over	435	84	519	41.0	29.9	38.7
Total	1,062	281	1,343	100.0	100.0	100.0

Industry Groups and Employment Status

TABLE 11 shows by industry groups the employment status of males who were able and willing to work. The industry classification used in Syracuse was identical with that used in the Buffalo study with the exception that, because of the importance of chemical manufacturing in Syracuse, a separate classification was made for this group, and excepting also that, because no airplane manufacturing was carried on in Syracuse, no data are shown for that group. Considering first the two major industry groups "trade and transportation" and "manufacturing and mechanical pursuits," it appears that in trade and transportation, 73.5 per cent of the males were employed full time, 13.8 per cent were employed part time, and 12.7 per cent were unable to find work; in manufacturing and mechanical pursuits 41.3 per cent of the males were employed full time, 30.4 per cent were employed part time, and 28.3 per cent were unable to find jobs. Of the specific industry groups employing large numbers of males, the greatest proportion of males unemployed was found among the wage earners in the building trades, of whom 51.9 per cent were reported as unemployed. Building trades, contractors, showed 42.3 per cent unemployed; those employed in the manufacturing and servicing of automobiles, parts, and tires, showed 35.6 per cent out of work; of those engaged in the manufacture of iron, steel, and their products, 22.2 per cent were unemployed; in the domestic and personal service group, 18.9 per cent were out of work. The groups showing the least unemployment were: Professional service; bank and brokerage; insurance and real estate; Government employees; the railway, express, gas, and electric light group; paper, printing, and publishing; and the self-employed (other than building contractors).

Considering further the industry groups employing large numbers of males, it was found that full-time employment was greatest among the professional service group, insurance and real estate, bank and brokerage, the self-employed (other than building contractors), retail and wholesale trade, and those engaged in the manufacture of food and kindred products. Full-time employment was least among the wage earners and contractors in the building trades; in the manufacture of iron, steel, and their products; and in the manufacturing and servicing of automobiles, parts, and tires. Part-time employment was greatest in the manufacture of iron, steel, and their products; Government service; among contractors in the building trades; and in the railway, express, gas, and electric light groups. Part-time employment was least in insurance and real estate, in the professional service group, in the bank and brokerage group, among the self-employed (other than building contractors), and in retail and wholesale trade.

No table is included in this article dealing with the employment status of females able and willing to work, by industry groups. However, of the groups including large numbers of females, professional service showed 79.7 per cent employed full time, 10.8 per cent employed part time, and 9.5 per cent unable to find work; domestic and personal service showed 57.8 per cent employed full time, 20.7 per cent employed part time, and 21.5 per cent unable to find work; retail and wholesale trade showed 73.4 per cent employed full time, 10.0 per cent employed part time, and 16.6 per cent unemployed.

TABLE 11.—EMPLOYMENT STATUS OF MALES ABLE AND WILLING TO WORK, BY INDUSTRY GROUP, 1931

Industry group	Number				Per cent			
	Employed full time	Employed part time	Unemployed	Total	Employed full time	Employed part time	Unemployed	Total
Professional	266	10	11	287	92.7	3.5	3.8	100.0
Clerical, not otherwise specified	3	2	1	6	(1)	(1)	(1)	(1)
Domestic and personal service	204	37	56	297	68.7	12.4	18.9	100.0
Government employees (other than teachers)	270	158	52	480	56.3	32.9	10.8	100.0
Trade and transportation	1,134	213	196	1,543	73.5	13.8	12.7	100.0
Retail and wholesale trade	545	60	104	709	76.9	8.4	14.7	100.0
Telephone and telegraph	42	5	6	53	79.3	9.4	11.3	100.0
Railway, express, gas, electric light	300	128	52	480	62.5	26.7	10.8	100.0
Water transportation	1	-------	1	2	(1)	(1)	(1)	(1)
Bank and brokerage	56	4	3	63	88.9	6.3	4.8	100.0
Insurance and real estate	126	3	12	141	89.4	2.1	8.5	100.0
Other	64	13	18	95	67.4	13.7	18.9	100.0
Manufacturing and mechanical pursuits	881	650	604	2,135	41.3	30.4	28.3	100.0
Building trades, contractors	50	44	69	163	30.7	27.0	42.3	100.0
Building trades, wage earners	82	56	149	287	28.6	19.5	51.9	100.0
Clay, glass, and stone products	33	23	9	65	50.8	35.4	13.8	100.0
Food and kindred products	119	20	18	157	75.8	12.7	11.5	100.0
Iron, steel, and their products	199	247	127	573	34.7	43.1	22.2	100.0
Metal products, other than iron and steel	10	15	12	37	(1)	(1)	(1)	(1)
Paper, printing, and publishing	90	25	14	129	69.8	19.4	10.8	100.0
Wearing apparel and textiles	28	35	29	92	30.4	38.1	31.5	100.0
Automobiles, parts, and tires	113	70	101	284	39.8	24.6	35.6	100.0
Lumber and furniture	19	23	25	67	28.4	34.3	37.3	100.0
Chemicals	66	46	17	129	51.2	35.6	13.2	100.0
Other	72	46	34	152	47.4	30.3	22.3	100.0
Labor, not otherwise specified	3	11	25	39	(1)	(1)	(1)	(1)
Self-employed	434	35	60	529	82.1	6.6	11.3	100.0
Miscellaneous	4	3	22	29	(1)	(1)	(1)	(1)
Not reported	12	2	52	66	18.2	3.0	78.8	100.0
Total, all industries	3,211	1,121	1,079	5,411	59.4	20.7	19.9	100.0

[1] Percentages not computed because of small numbers involved.

Conclusion

THE study of unemployment in Syracuse is projected as the first of a series of such analyses to be made in that city in the autumn of each year. The Buffalo study of 1931 represents the third of such a series, which it is hoped will be continued. With the continuation of these studies, valuable results may be forthcoming as to the severity of unemployment with reference to "normal" times. In the case of these two studies, strictly comparable methods have been used. The result is a degree of comparability usually lacking in unemployment studies. Extending this same procedure, or an adaptation of it, to other cities should yield a body of data of great social value.

Methods of Rochester (N. Y.) Public Employment Center

THE Rochester Public Employment Center is fundamentally a laboratory for working out a particular technique for public employment service, the director of the technical division of that center reports in an article in the February, 1932, issue of The Personnel Journal. The experiments of this exchange range from variations in filing forms and the arrangement of furniture in the rooms where applicants are interviewed to complex vocational guidance and adult training.

Interviewing and counseling.—Applicants are now registered at the center from all types of occupations—from common laborer to college president. The interviewing of so many different kinds of job seekers is, of course, a difficult task. Occupations are classified into groups. To these different groups special interviewers are assigned, who are fitted by experience to understand the requirements of the occupations included in particular classifications. Each of the occupational divisions has a director and the whole system is under the control of a central manager.

When an unemployed applicant first comes to register he is received by a woman who endeavors to put him at his ease and who takes down his name and address on registration blank. Interviews take place in private rooms with dignified and comfortable furnishings. The interviewers are all trained for this psychological side of their task and are supposedly experts in the techniques of interviewing. Much thought is being given to the matter of opening interviews so that an understanding is established before the interviewer begins to compile data concerning the applicant. According to the article under review, a great deal of experimenting will be necessary before the center can suggest the most desirable procedures for interviewing. Up to the present the best results seem to have been secured from cross-examining the applicant and at the same time encouraging him to do a considerable amount of talking on his own initiative. The purpose of the interviews is also to set up a permanent and friendly relationship with the applicant.

> We have recognized that, if more objective sources of information are available, the interview should be used mainly as a means to obtain subjective data. It is not always possible under the press of business to make careful check-ups on all factual data received in the interviews. We do, however, give special attention in interviewing to learn the ambitions and goals of the workers, their interests, likes and dislikes, attitudes, loyalties and personality intangibles. Our aim has been not to standardize the interview but to organize it. During every interview the applicant is observed closely for objective evidence of personality traits.

A special study is being undertaken to ascertain just what personality traits may be objectively disclosed by means of the interview and how such traits may be appraised. Each interviewer pays special attention to finding out the work experience of the applicant and how much he knows about the job he wishes to secure.

The brief experience at the center indicates an amazing need of vocational guidance for adults. There are very few interviews which do not include some form of vocational counsel. The interviewer never tries to select an occupation for the applicant but places that burden upon the unemployed person after showing him the factors in his background or experience which may block success in some occupations while they may prove advantageous in other types of work.

The length of the interview ranges from 15 minutes to an hour or more. While the registration blanks used are not the same for all groups of occupations, each form calls for more detailed data than do the forms used in most employment offices. Fundamental facts are noted down concerning vital statistics, social and economic backgrounds, educational history, job experience, and records of placement. Space is also provided on the form for personality items and for evidences of attitudes, interests, and ambitions. The forms are

arranged so as to facilitate the transfer of the data to Hollerith tabulation cards.

Tests.—The use of tests by the center depends on the seeming requirements of the applicant. When it is clear that there is serious maladjustment, a number of tests may be given as an aid to vocational counseling. Among the center's tests are those for general intelligence, mechanical ability, social intelligence, aesthetic appreciation, trade knowledge, and interests. The center considers, however, that up to the present it has not sufficient data "on any battery of tests to make assumptions on their prognostic and diagnostic values." It is now making experiments with trade tests and tests for mechanical aptitudes. Tests for manual dexterity and motor coordination have already proved useful in selecting girls for assembly work. This progressive employment exchange hopes in time to be able to predict, with some certainty, possible success or failure in various occupations through a knowledge of the relationship of personal history items, interests, and test scores to actual success on the job.

Job analysis.—From the very beginning the center has given attention to securing accurate job specifications and to applying them to selection methods and has endeavored through a study of the operations of jobs in the industrial and commercial establishments in Rochester to classify and group such jobs so that they may be better understood for counseling, placement, and retraining procedures.

In the light of the center's experience, much of the job analysis work in the past is thought to have been too hairsplitting to be useful in public employment offices. While information of this character is acknowledged to be necessary, the center has found that these very detailed analyses of any job can not be used effectively until such job has been related to others. Some of the more important Rochester establishments have highly developed methods for training new workers. For the jobs on which many recruits are used, the center usually receives only general specifications, the training for the job being completed by the industry's own training department. An attempt is being made by the exchange to classify the jobs with which it deals into groups which may be compared as to physical, mental, and emotional requirements. It is trying to find out whether jobs of different titles can be broadly classified according to common elements, operations, movements, skills, and intelligence levels. If jobs can be so grouped the center believes it will be of great assistance in the transfer of workers from job to job and to stabilize the flow of labor from one seasonal occupation to another. These job analyses and groupings are to be submitted to the industries themselves for criticism and constructive suggestions.

Field trips.—In the mornings the interviewers are engaged in visiting employers to discuss employment problems and to become familiar with employers' requirements. Studies are made of the different operations and the character of the work done. The engineering service of the center has already been requested to make preliminary surveys of problems of production, the purpose of such surveys being to determine the practicability of changing or adding to personnel. Follow-up data on workers who have been placed by the center are collected on field trips, recorded, and studied by the staff.

Training and retraining.—Surveys to disclose the trends in occupational shifts have generally been made from data gathered in the past which do not apply to existing or future needs. Technological changes, the director of the technical division contends, are effected because certain operations have been found to be very expensive. Such changes in industry may, therefore, be expected at high-cost points. The center is contemplating gathering data from the diversified industries in Rochester and studying operations which form the high points of cost. Turnover, mechanization, changes of method, and product can also be studied as information is secured. Analyses of orders of raw material in major industries are also in contemplation. On their field trips the center's experts also get the opinions of employers on the future of various occupations. "Until fairly definite information is obtained as to what occupations are now undergoing marked changes, and until some means is found to predict trends in occupational shifts, the immediate problems of retraining will be obscure." It is recognized by the exchange that it is essential to base economical retraining on the overlapping of skills from job to job and on the common denominator existing between them.

The Rochester public school authorities and the employment center are cooperating in the arrangement of a tentative training and retraining program for adult unemployed persons. An effort is being made to regulate the program so that definite research information will be secured. When, through the center's interviews and counseling activities, the need for retraining is disclosed applicants are referred to the school authorities for individual training. After a study of the background and aptitudes of the candidate for a job, a training program is suggested for him and he is sent to the proper instructors. An applicant may start his course at any time and give it up whenever he wishes. The purpose is to establish a highly individualized curriculum—to get away from traditional trade-school methods in order that the person being retrained may progress as rapidly as possible.

Equipment and teaching staff for direct tryout experience and work projects on almost every type of tool and machine in machine shop, foundry, or office and the several trades are available. Projects on the following fields of work are now open to unemployed adults in Rochester: Sheet-metal work, brick and stone masonry, machine shop, tailoring, sewing and dressmaking, drafting, blue-print work, salesmanship, cookery, electric shop, foundry practice, commercial art, shorthand, courses on all office machines, and a general orientation course in occupational information. To these must be added the regular school subjects, mathematics, science, English, etc.

Statistics on employment conditions.—The center is serving more and more as a clearing house for statistical information concerning employment conditions. It plans to establish indexes based on wages paid and hours of work per week, using possibly the idea of the kilo-man-hour. Consideration is also being given to the making of a physical count of all applicants for jobs in all the Rochester industrial and commercial employment offices at certain hours of the week.

Study of Applicants for Jobs at Rochester Public Employment Center

TO FIND out what types of persons were unemployed in Rochester between June and October 1, 1931, the Rochester Public Employment Center made a study of the data taken from the records of interviews with its applicants during that period. The following are the results of an analysis of 7,600 unemployed, representing about 38 per cent of the total estimated number of unemployed in the city, as reported in an article in the February, 1932, issue of The Personnel Journal.

	Per cent of total applicants
Men:	
Farm workers	3.6
Unskilled labor	10.0
Semiskilled workers (routine machine operators)	11.8
Building trades workers	6.8
Skilled workers and trades	4.1
Technicians, engineers, architects, etc	2.5
Commercial and professional workers	11.1
Total	49.9
Women:	
Casual or day domestic workers	5.3
Service or permanent domestic workers	14.9
Permanent institutional workers, hotels, laundries, hospitals	6.2
Industrial workers, factory women	9.0
Commercial and professional workers	14.7
Total	50.1

The percentages of different nationalities among the unemployed group under review were as follows: Americans, 62.3; Italians, 7.4; Germans, 7.3; English, 4.3; Polish, 3.8; Canadians, 2.6; French, 0.8; Russians, 0.5; all others, 11.0.

It will be noted from the statement given below that over 90 per cent of the unemployed were under 50 years of age:

	Per cent
18 to 21 years	14.8
21 to 30 years	34.2
31 to 40 years	23.5
41 to 50 years	17.9
51 to 60 years	7.9
Over 60 years	1.7

The following percentages are based on the marital status of the unemployed applicants at the center for the period covered:

	Per cent
Single	45.7
Married	42.8
Widowed	8.0
Separated	2.8
Divorced	.7

Of the unemployed woman clerical workers 78 per cent, and of the unemployed factory girls 64 per cent, were found to be single. Of the unemployed skilled men 71 per cent, and of the semiskilled men 67 per cent, were married.

The average number of dependents for the various groups is shown in the accompanying statement.

	Number of dependents
Men:	
Semiskilled	2. 1
Skilled	2. 8
Common labor	1. 9
Technical	1. 5
Clerical and professional	1. 3
Women:	
Permanent domestic workers	1. 7
Domestic day workers	1. 1
Institutional	1. 1
Industrial and factory	. 9
Clerical	. 75
Average for entire group, men and women	1. 3

A study of the living arrangements of the unemployed disclosed that 65.5 per cent either owned their own homes or lived with parents in their own homes, 4 per cent lived in apartment houses, and 30.5 per cent in boarding houses.

Approximately 93 per cent of the unemployed had lived in Rochester for over a year and more than 75 per cent had been in that city for over 5 years.

The unemployed who were entirely inexperienced or who had only held one job constituted 27.6 per cent; those who had held two jobs only, 23.1 per cent; and those who had had 3 or more jobs, 49.3 per cent.

It seems obvious from the following tabulation on the length of time the unemployed spent on the last job that the bulk of unemployment is found among those who shift from job to job:

Time on last job:	Per cent
Less than 6 months	33. 3
Less than 1 year	12. 7
1 year	16. 0
2 to 5 years	25. 8
Over 5 years	12. 2

From the figures given below on the educational background of the unemployed group it will be noted that more than half of these jobless people had not gone beyond the eighth grade.

	Per cent
Less than eighth grade	22. 1
Eighth grade only	28. 4
High school attendance	17. 7
High school graduates	11. 3
College attendance	3. 2
College graduates	2. 7
Business school and high school	6. 4
Trade school and high school	6. 1
Correspondence courses and school	2. 1

Unemployment in Foreign Countries

THE following table gives detailed monthly statistics of unemployment in foreign countries, as shown in official reports, from Febuary, 1930, to the latest available date.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES [1]

Date (end of month)	Australia		Austria	Belgium				Canada
	Trade-unionists unemployed		Compulsory insurance, number unemployed in receipt of benefit	Unemployment insurance societies				Per cent of trade-unionists unemployed
	Number	Per cent		Wholly unemployed		Partially unemployed		
				Number	Per cent	Number	Per cent	
1930								
February	(2)		284,543	16,085	2.6	31,222	4.9	11.5
March	63,144	14.6	239,094	14,030	2.2	28,469	4.5	10.8
April	(2)		192,477	13,715	2.2	36,065	5.8	9.0
May	(2)		162,678	12,119	1.9	38,761	6.1	10.3
June	80,595	18.5	150,075	12,226	1.9	41,336	6.5	10.6
July	(2)		153,188	15,302	2.4	48,580	7.7	9.2
August	(2)		156,145	17,747	2.8	51,649	8.2	9.3
September	90,279	20.5	163,894	23,693	3.8	61,623	9.9	9.4
October	(2)		192,778	27,322	4.3	54,804	8.5	10.8
November	(2)		237,745	38,973	6.1	76,043	12.0	13.8
December	104,951	23.4	294,845	63,585	9.3	117,167	17.0	17.0
1931								
January	(2)		331,239	77,181	11.1	112,734	16.2	16.0
February	(2)		334,041	81,750	11.7	121,906	19.4	15.6
March	113,614	25.8	304,084	81,305	11.3	125,972	17.7	15.5
April	(2)		246,845	70,377	10.0	110,139	15.6	14.9
May	(2)		208,852	56,250	7.9	97,755	13.8	16.2
June	118,424	27.6	191,150	62,642	8.9	101,616	14.4	16.3
July	(2)		194,364	64,644	9.1	116,747	16.3	16.2
August	(2)		196,321	70,893	9.9	120,669	16.8	15.8
September	120,694	28.3	202,130	74,175	10.3	119,433	16.6	18.1
October	(2)		228,101	82,811	11.3	122,773	16.8	18.3
November	(2)		273,658	93,487	13.3	134,799	19.2	18.6
December	118,732	28.0	329,627	128,884	17.0	159,941	21.1	21.1
1932								
January	(2)		358,114	153,920	20.0	179,560	23.2	22.0
February	(2)		361,948					

Date (end of month)	Czechoslovakia			Danzig (Free City of)	Denmark		Estonia
	Number of unemployed on live register	Trade-union insurance funds—unemployed in receipt of benefit		Number of unemployed registered	Trade-union unemployment funds—unemployed		Number unemployed remaining on live register
		Number	Per cent		Number	Per cent	
1930							
February	86,156	40,550	3.6	21,153	59,363	21.0	4,580
March	88,005	45,567	4.0	20,376	47,109	15.6	3,575
April	79,721	42,664	3.7	18,371	33,471	11.8	2,227
May	77,069	41,098	3.8	16,232	27,966	9.4	2,065
June	73,464	37,853	3.4	14,975	24,807	8.7	910
July	77,309	46,800	4.1	15,330	26,200	9.3	762
August	88,005	52,694	4.7	15,687	26,232	9.0	1,039
September	104,534	57,542	5.3	16,073	27,700	9.0	1,414
October	122,379	61,213	5.5	17,307	32,880	11.4	3,282
November	155,203	65,904	5 9	20,272	44,200	15.3	5,675
December	239,564	93,476	8.3	24,429	71,100	24.6	6,163
1931							
January	313,511	104,580	9.5	27,081	70,961	24.2	5,364
February	343,972	117,450	10.0	28,192	73,427	26.0	4,070
March	339,505	119,350	10.0	27,070	67,725	22.1	2,765
April	296,756	107,238	8.9	24,186	45,698	15.3	2,424
May	249,686	93,941	7.6	20,686	37,856	12.3	1,368
June	220,038	82,534	6.6	19,855	34,030	11.3	931
July	209,233	82,759	6.6	20,420	36,369	11.8	634
August	214,520	86,261	6.9	21,509	35,060	11.8	933
September	228,383	84,660	6.7	22,922	35,871	12.1	2,096
October	253,518	88,600	6.9	24,932	47,196	16.0	5,425
November	336,874	[3] 105,846	8.3	28,966	66,526	22.3	7,554
December	480,775	[3] 146,325	11.3	32,956	91,216	30.4	9,055
1932							
January	583,138			34,912	105,582	35.1	
February	[3] 625,995			36,258	112,346	37.3	

See footnotes at end of table.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Finland	France	Germany			
				Trade-unionists		
	Number of unemployed registered	Number of unemployed in receipt of benefit	Number of unemployed registered	Per cent wholly unemployed	Per cent partially unemployed	Number unemployed in receipt of benefit
1930						
February	11,545	1,683	3,365,811	23.5	13.0	2,655,723
March	10,062	1,630	3,040,797	21.7	12.6	2,347,102
April	7,274	1,023	2,786,912	20.3	12.1	2,081,068
May	4,666	859	2,634,718	19.5	12.0	1,889,240
June	3,553	1,019	2,640,681	19.6	12.6	1,834,662
July	4,026	856	2,765,258	20.5	13.9	1,900,961
August	5,288	964	2,883,000	21.7	14.8	1,947,811
September	7,157	988	3,004,000	22.5	15.1	1,965,348
October	10,279	1,663	3,252,000	23.6	15.4	2,071,730
November	10,740	4,893	3,683,000	26.0	16.1	2,353,980
December	9,336	11,952	4,384,000	31.7	16.9	2,822,598
1931						
January	11,706	28,536	4,887,000	34.2	19.2	3,364,770
February	11,557	40,766	4,972,000	34.5	19.5	3,496,979
March	11,491	50,815	4,756,000	33.6	18.9	3,240,523
April	12,663	49,958	4,358,000	31.2	18.0	2,789,627
May	7,342	41,339	4,053,000	29.9	17.4	2,507,732
June	6,320	36,237	3,954,000	29.7	17.7	2,353,657
July	6,790	35,916	3,976,000	31.0	19.1	2,231,513
August	9,160	37,673	4,215,000	33.6	21.4	2,376,589
September	12,176	38,524	4,355,000	35.1	22.2	2,483,364
October	14,824	51,654	4,623,480	36.6	22.0	2,534,952
November	18,095	92,157	5,059,773	38.9	21.8	2,771,985
December	17,223	147,009	5,668,187	42.2	22.3	3,147,867
1932						
January	20,944	241,487	6,041,000	43.6	22.6	6,041,910
February		293,198	6,128,000			

Date (end of month)	Great Britain and Northern Ireland				Great Britain	Hungary		
	Compulsory insurance					Trade-unionists unemployed		
	Wholly unemployed		Temporary stoppages		Number of persons registered with employment exchanges	Christian (Budapest)	Social-Democratic	
	Number	Per cent	Number	Per cent			Number	Per cent
1930								
February	1,211,262	10.0	371,840	3.1	1,539,265	1,120	21,309	14.8
March	1,284,231	10.6	409,785	3.4	1,677,473	983	21,016	14.6
April	1,309,014	10.8	451,506	3.8	1,698,386	906	20,139	13.7
May	1,339,595	11.1	516,303	4.2	1,770,051	875	19,875	13.6
June	1,341,818	11.1	569,931	4.7	1,890,575	829	18,960	13.0
July	1,405,981	11.6	664,107	5.5	2,011,467	920	19,081	13.2
August	1,500,990	12.4	618,658	5.1	2,039,702	847	21,013	14.5
September	1,579,708	13.1	608,692	5.0	1,114,955	874	22,252	16.0
October	1,725,731	13.9	593,223	4.8	2,200,413	999	22,914	16.7
November	1,836,280	14.8	532,518	4.3	2,274,338	975	23,333	17.0
December	1,853,575	14.9	646,205	5.3	2,392,738	935	24,648	17.9
1931								
January	2,044,209	16.5	618,633	5.0	2,613,749	953	26,191	19.1
February	2,073,578	16.7	623,844	5.0	2,627,559	965	27,089	19.8
March	2,052,826	16.5	612,821	5.0	2,581,030	996	27,092	(2)
April	2,027,896	16.3	564,884	4.6	2,531,674	1,042	27,129	(2)
May	2,019,533	16.3	558,383	4.5	2,596,431	842	26,131	(2)
June	2,037,480	16.4	669,315	5.4	2,629,215	751	23,660	(2)
July	2,073,892	16.7	732,583	5.9	2,662,765	876	26,329	(2)
August	2,142,821	17.3	670,342	5.4	2,732,434	941	28,471	(2)
September	2,217,080	17.9	663,466	5.3	2,879,466	932	28,716	
October	2,305,388	18.1	487,591	3.8	2,755,559	1,020	28,998	
November	2,294,902	18.0	439,952	3.4	2,656,088	1,169	29,907	
December	2,262,700	17.7	408,117	3.2	2,569,949	1,240	31,906	
1932								
January	2,354,044	18.4	500,746	4.0	2,728,411	1,182	32,711	
February	2,317,784	18.2	491,319	3.8	2,701,173			

See footnotes at end of table.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Irish Free State		Italy		Latvia	Netherlands	
	Compulsory insurance—unemployed		Number of unemployed registered		Number unemployed remaining on live register	Unemployment insurance societies—unemployed	
	Number	Per cent	Wholly unemployed	Partially unemployed		Number	Per cent
1930							
February	(1)		456,628	26,674	8,825	50,957	12.5
March	22,623	(1)	385,432	28,026	6,494	34,996	8.6
April	(1)		372,236	24,305	3,683	28,421	6.9
May	(1)		367,183	22,825	1,421	26,211	6.3
June	19,146	(1)	322,291	21,887	779	23,678	5.5
July	(1)		342,061	24,209	607	29,075	6.7
August	(1)		375,548	24,056	573	32,755	7.6
September	20,775	(1)	394,630	22,734	1,470	35,532	8.2
October	22,990	(1)	446,496	19,081	6,058	41,088	9.6
November	25,622	(1)	534,356	22,125	8,608	46,807	11.8
December	26,167	(1)	642,169	21,788	10,022	81,204	18.2
1931							
January	28,681	(1)	722,612	27,924	9,207	100,340	23.2
February	26,825	(1)	765,325	27,110	8,303	109,235	23.5
March	25,413	(1)	707,486	27,545	8,450	102,743	21.8
April	23,970	(1)	670,353	28,780	6,390	68,860	14.3
May	23,016	(1)	635,183	26,059	1,871	60,189	12.2
June	21,427	(1)	573,593	24,206	1,584	59,573	11.7
July	21,647	(1)	637,531	25,821	2,169	69,026	13.3
August	21,897	(1)	693,273	30,636	4,827	70,479	15.3
September	23,427	(1)	747,764	29,822	7,470	72,738	15.7
October	26,353	(1)	799,744	32,828	13,605	84,548	18.0
November	30,865	(1)	878,267	30,967	18,377	[3] 107,372	18.5
December	30,918	(1)	982,321	32,949	21,935	[3] 157,933	29.7
1932							
January			1,051,321	33,277	26,163	145,124	27.0
February			1,147,945			139,956	25.4

Date (end of month)	New Zealand		Norway			Poland	Rumania
	Trade-unionists unemployed		Trade-unionists (10 unions) unemployed		Number unemployed remaining on live register	Number unemployed registered with employment offices	Number unemployed remaining on live register
	Number	Per cent	Number	Per cent			
1930							
February	4,348	8.5	7,851	18.9	22,974	274,708	15,588
March	(1)		7,503	17.8	22,533	289,469	13,045
April	(1)		6,701	15.8	19,829	271,225	13,412
May	5,884	10.9	5,239	12.2	16,376	224,914	25,096
June	(1)		4,700	10.8	13,939	204,982	22,960
July	(1)		4,723	10.8	11,997	193,687	23,286
August	7,197	13.5	5,897	13.4	12,923	173,627	24,209
September	(1)		7,010	15.7	17,053	170,467	39,110
October	(1)		8,031	18.0	20,363	165,154	36,147
November	8,119	15.5	9,396	21.4	24,544	209,912	42,689
December	(1)		11,265	25.5	27,157	299,797	36,212
1931							
January	(1)		11,692	26.3	28,596	340,718	38,804
February	(1)		(1)		29,107	358,925	43,270
March	[4] 38,028		11,213	24.9	29,095	372,536	48,226
April	[4] 36,981		(1)		28,477	351,679	41,519
May	[4] 40,507				25,206	313,104	33,484
June	[4] 45,264				22,736	274,942	28,093
July	[4] 47,772				20,869	255,179	29,250
August	[4] 50,033				22,431	246,380	22,708
September	[4] 51,375				27,012	246,426	22,969
October	[4] 50,266		[5] 9,048	[5] 19.6	29,340	255,622	28,800
November	[4] 47,535		10,577	22.8	32,078	266,027	43,917
December	[4] 45,140		12,633	27.2	34,789	312,487	49,393
1932							
January	[4] 45,539				34,636	325,782	51,612
February					37,796	343,800	

See footnotes at end of table.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Saar Territory	Sweden		Switzerland				Yugoslavia
				Unemployment funds				
	Number unemployed registered	Trade-unionists unemployed		Wholly unemployed		Partially unemployed		Number of unemployed registered
		Number	Per cent	Number	Per cent	Number	Per cent	
1930								
February	11,949	45,460	13.2	9,971	4.1	11,445	4.7	9,437
March	8,882	42,278	12.5	7,882	2.6	12,642	4.2	9,739
April	7,522	38,347	11.1	5,203	2.1	12,755	5.3	12,052
May	7,362	28,112	8.3	5.356	2.2	13,129	5.4	8,704
June	6,330	28,956	8.1	5,368	1.7	17,688	5.7	6,991
July	7,095	27,170	7.8	4,751	1.9	15,112	6.2	7,236
August	7,099	28,539	8.1	5,703	2.3	19,441	7.9	6,111
September	7,527	34,963	9.8	7,792	2.5	26,111	8.3	5,973
October	9,013	43,927	12.2	7,399	3.0	23,309	9.4	6,609
November	12,110	57,070	15.3	11,666	4.7	25,793	10.5	7,219
December	15,245	86,042	22.9	21,400	6.6	33,483	10.4	9,989
1931								
January	18,921	69,437	19.8	20,551	8.3	30,977	12.5	11,903
February	20,139	66,923	18.4	20,081	7.9	30,879	12.2	14,424
March	18,292	72,944	19.3	18,991	5.4	41,880	12.4	12,029
April	18,102	64,534	17.5	10,389	4.0	27,726	10.6	11,391
May	14,886	49,807	13.2	9,174	3.5	26,058	9.9	6,929
June	15,413	45,839	12.1	12,577	3.6	34,266	9.7	4,431
July	17,685	46,180	12.4	12,200	3.3	39,000	11.3	6,672
August	20,205	48,590	12.7	9,754	3.6	33,346	12.4	7,466
September	21,741	54,405	13.7	15,188	4.0	42,998	11.2	7,753
October	24,685	65,469	16.4	18,000	4.8	47,200	13.2	10,070
November	28,659	79,484	19.9	25,200	6.6	51,900	14.4	10,349
December	35,045	110,149	27.2	41,611	10.1	61,256	14.9	----------
1932								
January	38,790	93,272	24.5	44,600	10.6	----------	--------	19,665

[1] Sources: League of Nations—Monthly Bulletin of Statistics; International Labor Office—International Labor Review; Canada—Labor Gazette; Great Britain—Ministry of Labor Gazette; Austria—Statistische Nachrichten; Australia—Quarterly Summary of Australian Statistics; Germany—Reichsarbeitsblatt, Reichs Arbeitsmarkt Anzeiger; Switzerland—Wirt. u. Social. Mitteilungen, La Vie Economique; Poland—Wiedemosci Statystyczne; Norway—Statistiske Meddelelser; Netherlands—Maandschrift; Sweden—Sociala Meddelanden; Denmark—Statistiske Efterretninger; Finland—Bank of Finland Monthly Bulletin; France—Bulletin du Marché du Travail; Hungary—Magyar Statisztikai Szemle; Belgium—Revue du Travail; New Zealand—Monthly Abstract of Statistics; U. S. Department of Commerce—Commerce Reports; and U. S. Consular Reports.

[2] Not reported.

[3] Provisional figure.

[4] New series of statistics showing unemployed registered by the employment exchanges. Includes not only workers wholly unemployed but also those intermittently employed.

[5] Strike ended. Provisional figure.

INSURANCE, BENEFIT, AND THRIFT PLANS

Unemployment-Benefit Plan of Minnesota Mining & Manufacturing Co.

IN ORDER that a reserve might be set up for the payment of benefits to employees in time of unemployment, the unemployment-benefit plan of the Minnesota Mining & Manufacturing Co., of St. Paul, Minn., manufacturers of abrasives, was placed in operation on January 1, 1932. A month later, that is, in February of this year, approximately 540 employees were covered by the provisions of the plan but no benefits had been paid as no lay-offs had as yet occurred.

The working week is 42 hours for office workers, and 45 to 50½ hours for other employees, but at present the company is operating on a 5-day basis.

Eligibility

ALL employees of the company are eligible to benefit under the plan, provided they are participating in the group life and disability insurance and old-age pension plan of the company at the time of lay-off and that they have been employed by the company for not less than three years and are earning wages or salary at a rate of less than $45 per week.

Eligibility to benefit terminates under the plan in cases of "force majeure," if an employee secures work elsewhere, is discharged or leaves voluntarily, if a labor dispute arises, and in a variety of related contingencies.

Benefits

IT IS provided that during periods of slack work, from whatever cause, the company will endeavor to supply at least part-time employment, but that if this becomes impossible and employees are laid off, benefits will be paid to persons with three or more years of service with the company at the rate of 60 per cent of the first $10 of normal earnings plus 20 per cent of the balance of weekly earnings over $10. To the benefit payment so computed will be added 5 per cent of total benefit for every year of service beyond 3 years. For the purposes of this plan normal earnings are average weekly earnings for three months prior to lay-off. Benefits are payable for 10 weeks to employees of 3 to 4 years' service and for 1 additional week for each additional year of service, up to 17 weeks for 10 years and over. To exemplify the method of computing the benefit payment, it may be assumed that a given employee's average weekly earnings are $25 and that he has been 7 years with the company. He will then receive in benefit $10.80, made up of $6 (60 per cent of the first $10 of average weekly pay) plus $3 (20 per cent of the remaining $15 of average weekly pay) plus $1.80 (5 per cent of the benefit payment for each of the four years of service in excess of 3 and under 4 years).

In slack times should the company place an employee in less remunerative work than he ordinarily has, the employee would be entitled to a sum in benefit sufficient to bring his earnings up to the amount he would receive out of the reserve fund if laid off.

Benefits will be paid after three weeks of unemployment for the third week only and payment will continue for 10 to 17 weeks in any 12 consecutive months, according to length of service, as previously explained.

Administration

ADMINISTRATION of the plan is placed in the hands of a special committee appointed by the board of directors of the company and subject to the general control of the board. The committee is made up of the factory manager, superintendent, and assistant treasurer. This committee may make its own rules and regulations and the board may authorize the committee to pass upon claims against the funds. If the committee is given such power, the decisions of the committee will stand unless the board of directors overrules them within a reasonable time.

Financial Arrangements

THE ordinary costs of the plan will be met from a fund made up of employer contributions to the amount of 2 per cent of the annual pay roll, or any smaller amount that the company shall find sufficient from time to time, always keeping in mind that a reserve sufficient to pay benefits for a 5-year period shall be held in the fund. In emergencies it is provided that the company and employees shall contribute equal amounts. These emergency contributions are to be made according to a graduated scale, increasing from an annual contribution of 0.8 per cent for workers with incomes of $800 to 2.5 per cent for employees earning $2,500, and 10 per cent for employees earning $10,000. The sums so raised will be matched by the company and placed in the reserve fund. However, it is not anticipated that emergency contributions will be required except in most unusual circumstances.

In connection with the subject of financing it may be stated that the company does not acknowledge that any employee has any vested interest in the unemployment benefit or any right to demand or sue the company to enforce any rights under the terms of the plan. It is provided, however, that should the plan be discontinued, any amounts held in the reserve fund would be distributed according to source of origin, the company taking its share and those officers and employees who shall be deemed to have contributed receiving their pro rata share of the sums on hand. For this purpose the officers and employees who last contributed would be deemed to have contributed, as it would be assumed that earlier contributions had been disbursed in benefit payments.

Should such a dissolution take place it is provided that a majority of the employees may designate a person, committee, or trust company to distribute their share of the balance, and in that case the company's obligation ceases. If the employee share of the balance is small and the number interested large, or if for some other reason the problem of distribution becomes difficult, the employees may direct the company to divert the fund to some charitable use or for the good of the employees, and in that case the action taken shall be binding.

Insurance and Savings Plan of the Forum Magazine

TWENTY-SEVEN of the twenty-nine employees of the Forum Publishing Co. of New York City, are participating in a savings reserve fund established in January, 1932, to provide assistance in times of illness and unemployment. According to recent advice from an official of the magazine staff, participation in the savings reserve fund is open to all employees who subscribe to a group accident and sickness benefit policy issued by one of the commercial insurance companies. To this insurance system employers contribute a share and employees pay according to salary. Benefits range from $10 to $25 a week for 13 weeks.

Any employee who wishes to obtain protection beyond that furnished under the group accident and sickness benefit plan may do so by contributing a sum equal to 2 per cent of salary. This amount is matched by the company and thus at the end of a year the individual subscribing has built up a reserve equal to 2 weeks' salary. The fund so raised is administered by a committee of employees and deposited in local savings banks. Any participant who wishes to borrow from the reserve is free to do so up to 50 per cent of the amount credited to him if he draws prior to January 1, 1934, and up to the total amount credited to his account if he borrows after January 1, 1934. Regardless of the amount borrowed, the interest rate is placed at 6 per cent. It is further stipulated that any person who voluntarily withdraws from employment with the Forum prior to December 31, 1933, shall receive his own deposits in full plus interest. If he is discharged for any reason other than misconduct or resigns voluntarily after December 31, 1933, he receives in addition to his own deposits and interest the amount credited to his account by the employer plus interest.

Quite apart from the savings reserve fund and group accident and sickness benefit policy, the Forum has agreed to pay all employees who may be dismissed through no fault of their own in the course of the present depression 25 per cent of their present salary, or a minimum of $10 a week, for six months. Persons receiving this payment may be required to work one and one-half days a week during the 6-month period, for which payment is made. They will waive right to the payment upon acceptance of other employment.

It is stated that the Forum plan, as originally offered, provided for group life insurance but little interest was evinced in this phase of the plan and it was therefore abandoned. This was true in spite of the fact that the company proposed to pay a considerable part of the premium payment, making the cost to employees lower than would otherwise have been possible.

Employee Savings and Investment Plans

A STUDY of savings and investment plans for employees of industrial establishments has recently been made by the industrial relations section of Princeton University.[1] The beneficial effects of such plans have been evident in the present period of depression when the possession of savings which have been acquired through the en-

[1] Princeton University. [Department of Economics and Social Institutions]. Industrial Relations Section. Company plans for employee savings and investment. Preliminary draft, mimeographed. Princeton, N. J., 1931.

couragement of the employing companies has furnished a degree of security to employees temporarily laid off or put on part time. It is believed that the realization of the extent to which such savings have aided employees suffering from the depression will stimulate renewed interest in the establishment of such plans when employment conditions improve. Although industrial planning and the regularization of production and employment offer the best assurance against unemployment, in many industries it is impossible so to stabilize production as to be able to guarantee employment or to provide unemployment benefits. Company savings plans, either with or without employer contributions, therefore, are said to provide flexible, effective machinery for helping employees to protect themselves against economic hardships and thus in a measure offset the lack of stable employment conditions.

In the report under review a limited number of plans are analyzed with a view to showing the kinds of plans which have operated successfully. The different types of plans discussed cover those maintained in cooperation with banks, those in which the employer takes care of the investment, and long-term savings funds which are supplemented by contributions by the employer.

The financial results of the operation of several of these funds are impressive. Thus, the credit unions of the New England Telephone Co. handled during 11 months in 1931 over $1,500,000 of their members' savings. Shares held by members of the savings, building, and loan association of the Hawthorne Plant of the Western Electric Co. represented an investment value at the end of August, 1930, of $7,202,000. The Ford investment plan has had in some years as many as one-third of the total number of employees as investors, with savings which have amounted to as much as $25,000,000. The savings and investment-fund plan of the General Motors Corporation has been in existence more than 12 years. During that time seven groups of employees have completed their 5-year savings periods and in February, 1931, were reported to have received $65,955,547 from the funds. In many smaller companies the sums saved have reached substantial amounts.

In general, the companies have been largely responsible for the development of the thrift plans, although employees have often cooperated from the beginning and shared in the operation of the plans. The support of the plans by the companies has ranged from written and verbal indorsements to regular company contributions to the savings fund. The interest of the employees in the funds has been maintained through carrying out carefully planned campaigns at regular intervals, the payment of additional interest to employees who continue their savings over a specified time, and pay-roll deductions to encourage regularity of payments.

Credit for the growth of industrial thrift plans in the past decade is due, also, to the efforts of the employees themselves, since saving is not easy when the margin above necessities is small. A study by the National Industrial Conference Board, which shows that the cost of living which would maintain a fair American standard of living for a family of four varied from $27.73 per week in the city showing the lowest costs to $31.30 in New York City, is cited to show the difficulty encountered in building up reserves by the large number of factory workers who receive less than these amounts even during

periods of full-time employment. Installment buying has developed rapidly and has made it easy for the American workingman to spend beyond his means. In spite of the difficulties in the way of saving, however, the number of thrift plans has grown steadily although attitudes toward saving have changed. Saving for the sake of saving is no longer advocated, but, instead, saving with a view to being able to purchase the things one really wants and needs instead of spending on things that really do not matter. The newer attitude, it is said, recognizes "the value in the system of small payments spread over a period of time, but applies it to installments paid before the purchase is received rather than after it is worn out."

The experience with thrift plans especially during the depression period has shown that there is danger of encouraging employees to undertake too much or to make investments in which there is too large an element of risk. This is especially true in cases where, as in building and loan associations, serious loss may result from a prolonged interruption to installment payments. The risk of marked declines in market values of stock, emphasized by the stock market crash of 1929, has resulted in attempts on the part of employers to change their stock-purchase plans so as to eliminate some of the greater risks. Employees whose financial situation and prospects make it unwise to take risks should be encouraged to invest only in plans in which safety is assured, even though the return is lower.

Savings Plans in Cooperation with Banks

THE most easily operated and most popular type of savings plan is operated in connection with local savings banks. In this type of plan participation by employees is made easy through the deduction of the amount the employee wishes to save from his weekly wages and the deposit of this sum to his account in the savings bank. In promoting the accumulation of savings among employees it is essential to arouse and sustain their interest and to do this requires a definite plan on the part of the company. The success of the savings plan also demands that deposits in the fund shall be made with as great regularity as possible.

In general, savings plans conducted in cooperation with banks have the very definite advantage of putting a minimum of responsibility on the company and of leaving the care of the funds to the bank, which specializes in the care of money.

Employer-Employee Savings Funds

IN THE second type of industrial thrift plan, the savings are accumulated in a fund handled by the employer alone, or by the employer and employees jointly. These plans usually concern savings rather than investment funds and aim at the encouragement of short-term accumulation of means to meet unusual expenses or to make special purchases rather than at the investment of funds on a longer term basis. In addition to enabling employees to meet such expenses, this type of savings plan protects long-term investments toward which employees are making regular payments, such as the purchase of a home or of company stock.

In these plans all employees are generally eligible, although a short period of employment with the company may be required, or there may be a salary limitation upon membership. Regularity of payments in such savings plans is best secured through pay-roll deductions.

Long-Term Savings Funds Receiving Contributions from Employers

PLANS for long-term investment by employees generally take the form of building and loan associations, extra pension or insurance plans, purchase of company stock, or purchase of diversified securities by means of an investment trust, or in some cases long-term savings funds to which contributions are made by the employer. There are two general types of the latter class of plans: Those in which the employers' contribution is a fixed percentage of the amount deposited by the employee, or those in which the employer deposits a set amount or a set percentage of the profits of the business, this amount being credited to the accounts of members according to their deposits. The latter type is a combined thrift and profit-sharing plan, but if the employee receives stock of the company in return for his deposits and as his share of the company's contribution the plan should be classified as a stock-purchase plan rather than a savings plan.

It is stated in the report that there is some reason to believe that there will be increasing use of the practice by employers of making contributions to employee savings funds for the purpose of encouraging thrift among the lower-wage groups. Although this is an expensive procedure, especially when a company is setting aside reserves for pensions and is carrying premiums for group insurance, still the employee is usually saving two or more times the amount contributed by the company and, furthermore, such a plan may lead to the development of habits of thrift on the part of the younger single employees to whom pensions and group insurance make little appeal. "While all employees will not or can not save," the report concludes, "the assignment of a part of the funds which the company is willing to invest in employee financial security to the encouragement of thrift may afford exceptionally promising results. To help an employee help himself is a primary aim of all progressive plans for financial security."

Benefits Paid by Photo-Engravers' Unions

THE report of the president of the International Photo-Engravers' Union, made to the 1931 convention of the organization, contains data showing the benefits of various types paid by the international and by the locals.

The international union pays (1) a weekly strike benefit of $15 for the first 3 weeks, $20 for the next 3 weeks, and $25 "for an almost unlimited period thereafter"; (2) a tuberculosis benefit of $15 per week; and (3) a funeral benefit of $200. It also provides each member with life insurance of $1,000. During October, 1930, as directed by the 1930 convention, a proposal to establish a system of unemployment benefits was submitted to a referendum vote of the membership; it was rejected by a vote of 4,401 to 2,925.

Many of the local unions, however, are paying unemployment benefits, ranging from $10 to $30 per week. Likewise, many locals have

established their own benefits for sickness, death, and/or tuberculosis, supplementing those of the central organization.

The amounts paid, for the various types of benefits, by the international and by the locals, are shown in the table following. It shows aggregate benefits paid during 1930–31, amounting to $1,053,711.

BENEFITS PAID BY PHOTO-ENGRAVERS' UNIONS, YEAR ENDING MAY 31, 1931

Type of benefit	Benefits paid by—		
	International union	Local unions	
		Number paying	Amount paid
Strike and lockout	$98,796		
Group life insurance	91,000		
Death	18,100	11	$47,325
Tuberculosis	34,103	6	(1)
Unemployment		31	739,976
Sickness		18	24,411
Total	241,999		811,712

[1] Not reported.

Administration of Bombay Maternity-Benefit Act

THE Bombay Labor Gazette contains, in its issue for November, 1931, some details of the work done under the Bombay maternity benefit act during the year ending June 30, 1931. The act, which became effective July 1, 1929 (see Labor Review, March, 1930, p. 57), provides that a woman who has been working in a factory for at least six months before claiming benefit is entitled to a maternity benefit, to be paid by her employer, of 8 annas[1] (18 cents) a day for three weeks before and four weeks after her confinement. To receive the benefit she must, at the proper time, give notice in writing to her employer that she expects to be confined within one month, that she wishes to claim the benefit, and that she will not work at any other employment during the period for which the benefit is paid. After such a notice has been given, the employer may not dismiss her during her absence. The maximum period for which benefit may be claimed is seven weeks.

According to the Labor Gazette, of the 353 factories coming under the terms of the act, 348 reported upon its operation. The other 5 employed few women, and probably had had no occasion to give the benefit. The average number of women employed daily in these factories was 51,950, the number claiming benefit was 5,963, the number of benefits actually paid was 5,231, and the benefits paid amounted to 121,325 rupees ($44,284). In the preceding year only 1,700 benefits, amounting to 34,663 rupees ($12,652) were given, so that it is obvious that the women are now making use of the act far more freely than at first. The number of claims paid per 100 women employed in Bombay, Ahmedabad, and Sholapur were respectively 6.1, 18.1, and 13.5.

[1] Conversions into United States currency made on basis of rupee=36.5 cents; anna=one-sixteenth of rupee.

The maximum benefit that may be earned is Rs. 24–8–0 [$8.94]. The average benefit paid last year was Rs. 20–6–0 [$7.44], whereas in the year under review it amounted to Rs. 23–3–0 [$8.46]. This indicates that the women are availing themselves to a greater extent of the preconfinement relief period. * * *

The act has been of very great assistance to working women, and a greater use is being made of maternity homes. It has, on the whole, worked smoothly, and this is, in great measure, due to the attitude of the employers in the large factories who have been guided more by the spirit than by the letter of the law. The small employer has not been as liberal and it is thought that some women in the smaller factories do not receive benefits when earned.

In general, it is said, the act has not led to any appreciable displacement of women as workers in the large factories, but in the small factories the prosecution of claims would be very apt to lead to the dismissal of women of child-bearing age. It is widely believed that the act has led to a reduction in labor turnover and to that extent has benefited the employer. "In one large mill, for example, 50 per cent more women worked throughout the year than had previously been the case."

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FAMILY ALLOWANCES

French Law Providing for General System of Family Allowances

A BILL amending the French Labor Code, to make family allowances compulsory for all employers, was adopted by the French Senate on January 21, 1932. The Chamber of Deputies had already voted in favor of the measure and before its submission to the Senate the proposed law had received the approval of several commissions, among them the commission of commerce, the commission of agriculture, and the commission on civil and criminal legislation. The provisions of the act are to be put into effect gradually through decrees of the Minister of Labor, who will determine for each region the trades (*professions*) or trade groups which, in his judgment, seem able to bear the additional expense involved in the payment of family allowances.[1] A résumé of this new measure, signed by the President March 11, 1932,[2] is given below:

Scope and Coverage

THE act covers every employer customarily employing workers or employees of whatever age or sex in industry, commerce, or the liberal professions. Such employers must affiliate with a compensation fund or some other institution approved by the Minister of Labor, constituted by employers for the purpose of equalizing among them the costs of the family allowances. (An employer who has already established for his own personnel a system of family allowances approved by the Minister of Labor may be exempted from this requirement. He must, however, be able to prove, to the agents charged with the enforcement of the law, that his system is in regular operation). The employer must also be able at any time to produce evidence from the compensation fund that his assessments have been paid.

State or other public establishments in which special systems of family allowances have already been instituted by law are not covered by the new legislation. The act, however, will be applicable to agricultural enterprises under conditions to be determined by an order of the Public Administration after consultation with the chambers of agriculture and the Minister of Agriculture.

The new law is applicable to all of France, including the Departments of Haut-Rhin, Bas-Rhin, and Moselle.

Benefits

FAMILY allowances are payable for every child, legitimate, recognized, or adopted, and for every ward, residing in France, dependent on the worker or employee, and not over the compulsory school age. Such allowances are also due up to the age of 16 years if the child is pursuing his studies, or is placed in apprenticeship under certain specified conditions, or by reason of infirmity or chronic illness is unable to apply himself to gainful employment.

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[1] France. Journal Officiel. Débats parlementaire. Sénat, session ordinaire de 1932. Compte rendu en extenso–5e séance. Séance de Jan. 21, 1932. Paris, Jan. 22, 1932, pp. 38–42.

[2] France. Journal Officiel. Soixante-quatrième année. No. 61. Lois et décrets. Paris, Mar. 12, 1932, pp. 2626–2628.

To whom paid.—The allowance is payable to the wage earner or salaried employee who is responsible for the child. If the father and mother or the grandfather and grandmother who have charge of the child are both in the service of employers subject to the law, the allowance is paid to the father or grandfather; in such cases the cost of the allowances is to be divided equally between the funds to which the employers are affiliated, unless the funds have otherwise agreed. However, compensation funds or other approved institutions may provide in their regulations that the allowances shall be paid in all cases or in certain specified cases to the mother or to the person actually responsible for the child's education.

Rate of allowances.—The minimum allowance for each child is to be determined by an order of the Minister of Labor for each department, either for all trades together or for each trade group. The minimum rates must, however, in each department and eventually in each trade group, be equal to those current at the date of the promulgation of the present law in compensation funds already approved. These scales, however, may be revised subsequently.

Period.—The number of daily allowances must not be less than the number of days actually worked in the course of a specified period. No deduction can be made for any cause whatsoever except for fraud.

In case of an industrial accident, family allowances are to be maintained in full during the period of temporary disability. In case of permanent disability or death, allowances are also to be paid in so far as the children have the right, by reason of their age, to such grants.

Unpaid claims.—Workers or employees to whom family allowances are due from an approved compensation fund or other approved institution or from an employer excused from affiliation may, in case of nonpayment, take action under an amendment to article 2101 of the civil code dealing with the matter of preferred claims.

Assignability, etc.—The grants are declared nonattachable and nontransferable, except for the payment of debts for subsistence, provided by article 203 of the civil code.

Application and Administration of Act

AN ORDER of the Public Administration will set forth the methods of applying the new legislation especially with reference to (1) the conditions to be fulfilled by the compensation funds or other institutions or services for family allowances in order to obtain approval; the proofs to be produced by approved funds, institutions, or services and also the conditions under which approval will be withdrawn; and (2) the proofs to be furnished for children who have passed the compulsory school age.

Date of effectiveness of act.—Subsequent to the publication of the order of the Public Administration referred to above, decrees adopted after consultation with employers' trade associations and interested regions will determine the respective dates at which the family allowance provisions will become effective in the various trades or trade groups, or in the same trade or trade group for certain regions, or even for certain employers having but a limited number of workers or employees.

This new chapter to the labor code will come into force three months after the publication of the order of the Public Administration determining the methods of applying the provisions, except in agricultural enterprises when the provisions will go into effect three months after the promulgation of an order of the Public Administration rendered after consultation with chambers of agriculture and the Minister of Agriculture.

The law of December 19, 1922, and the decrees adopted for its application will be abrogated as the decrees are issued putting the new law into effect in the various trades or regions.

New commission.—The law creates a high commission on family allowances to cooperate with the Minister of Labor and serve in an advisory capacity in connection with the orders of the Public Administration and the decrees on family allowances and the fixing of scales for such grants.

Penalties for Violations

FINES of from 5 to 15 francs are to be imposed upon heads of establishments, directors, or managers, for violations of various provisions concerning family allowances. In the case of a second offense the fines range from 16 to 100 francs. In cases of failure to affiliate with an approved compensation fund, the fine levied will be multiplied by the number of employees in the offending establishment.

The penalties provided above are independent of any damages violators may be forced to pay to heads of families who have been deprived of family allowances.

INDUSTRIAL AND LABOR CONDITIONS

Effects of Industrialization Upon Chinese Village Life

THE life of villages in the neighborhood of large industrial cities in China is apparently undergoing rather fundamental changes, H. D. Lamson of the University of Shanghai, reports in the October, 1931, issue of the Chinese Economic Bulletin. This is particularly the case, he states, in hamlets near enough to the business centers to allow the residents to have first-hand economic contacts in the city through industrial establishments which offer new fields of employment. Young village women gain greater independence by going into the industries. Instead of remaining on the land, young men marry and move with their families into the city or go there as single individuals in order to be close to their jobs. The labor mobility is increasing as the drawing power of the city makes itself felt. Big families break up into smaller units, and the solidarity of the clan is weakened. People from remote places come to live with their relatives or take up their abode in the suburban communities from which they more easily move on to the industrial center itself.

In the immediate neighborhood of the University of Shanghai there are a number of little villages near the Chung Kung Road. A few years ago the residents of these rural districts, like those in hundreds of similar settlements in China, were wholly dependent for a livelihood on the village trades and on farming. Now, scores of workers, mainly young women and girls, pass by the gates of the university on their way to and from the textile factories; some of them spend more than two hours daily on the road.

In order to find out something concerning the life and work of these people a number of sociology students in the university made an investigation of 50 families in 4 villages, selecting so far as practicable families in which there were one of more industrial wage earners. The survey was carried on during four college semesters beginning October, 1929, and closing June, 1931. The article in the above-mentioned number of the Chinese Economic Journal gives the results of this study, a summary of which is here presented.

The total number of persons in the 50 families covered was 255, the average number of persons per family being 5.1. A family is defined as an "economic unit living together and sharing expenses and contributing income to one family treasury, including a few living apart but in the economic unit."

The average income of the 50 families was $646.86 [1] (United States currency $194.06), the family with the lowest income receiving $213.50 (United States currency $64.05) per annum, and the family with the highest income $1,355.55 (United States currency $406.67). The average earnings of males were $263.55 (United States currency $79.07) per annum, and those of females, $173.42 (United States currency $52.03).

Factory and industrial earnings constituted approximately 50 per cent of the total income of the 50 families taken together, 47 of these families having income from such source. Approximately 20 per cent

[1] Conversions into United States currency on basis of Mexican dollar (at par in 1930) equaling about 30 cents.

of the total income of the whole group of families was derived from land products, 26 families depending in part on this source for their livelihood.

Nearly one-half of the 70 female factory workers were married. Of the 108 males covered in the investigation 55.5 per cent, and of the 147 females, 57.14 per cent, were gainfully employed. Of the 255 persons in the 50 families, 56.47 were wage earners.

More of the males were engaged in farming than in any other single occupation. Industrial employment ranked next in number of males employed, and commercial vocations ranked third. This did not mean that farming was followed by the largest number of males born in these villages, because many who entered industrial and commercial employment moved to the city and were not included in the 50 families, while the males who took up farming were obliged to remain in the villages.

Of the 84 women and girls in gainful employment, 70 worked in factories. The average annual earnings of 68 female factory workers was $180.95 (United States currency $54.29) Females contributed 48.3 per cent of the total earnings of all the gainfully employed.

None of the girls of school age was attending school. Of the 21 girls 6 to 14 years of age, only 2 were factory workers, the other 19 remaining at home. Of 21 boys 6 to 14 years of age, only 5 were attending school.

Of the 50 families, 35 owned their own homes, the average value of owned houses in 19 instances being $574 (United States currency $172.20).

In the higher income groups a larger percentage of families owned their homes. One-half of the 50 families owned land, the average amount owned being 9.04 mow [2] per family with land. The families with the more substantial incomes were the largest landholders and a higher percentage of them were landowners than were the families in the lower income groups.

The average annual family expenditure was $618.30 (United States currency $185.49).

Eleven families showed a deficit and 39 families a surplus at the close of the year. Among the latter, however, were two families which had to borrow to make ends meet. The average surplus for all 50 families was $28.56 (United States currency $8.57) per family. For the most part the families were, by hard work, apparently able to operate without a deficit, providing they could get steady employment and had no extraordinary expenses such as for marriage, illness, or death. Family crises create debts which necessitate borrowing.

The percentage distribution of expenditures in these families was as follows: Food, 66.2 per cent; clothes, 10.6 per cent; fuel and light, 6.5 per cent; house rent, 2 per cent; and miscellaneous items, 14.7 per cent. Within the food group of expenditures, 51.58 per cent was for cereals; 17.09 per cent for vegetables; 15 per cent for eggs, fish, and meat; 10.11 per cent for condiments; 0.84 per cent for fruit; and 5.38 per cent for miscellaneous items.

The average annual expense per equivalent adult male was $160.85 (United States currency $48.26), food costing $106.48 (United States currency $31.94), clothes $17.05 (United States currency $5.12), fuel and light $10.47 (United States currency $3.14) rent $3.21 (United

[2] One mow is regarded at Shanghai by custom as equivalent to one-sixth (0.1666) of an acre, but it varies throughout China.

States currency 96 cents), and miscellaneous items $23.64 (United States currency $7.09).

The average number of rooms per family was 2.54, while the number of persons per room was greater in the smaller dwellings, the average being 1.44 person per room for the families as a whole. Four-room houses predominated, 21 of the 50 families having houses of this size, 14 families occupied 3-room houses, and 8 families lived in 1 or 2 rooms each.

All 50 families taken together expended seven times as much money for tobacco and four times as much money for wine as they did for intellectual items, such as newspapers, books, and education. Only 5 of the 50 families spent money on education, while 25 bought wine and 27 used tobacco.

Religious worship continues to be important in these families, particularly among the women. All but one of the families reported expenditures in this connection. Some evidence points, however, to a breaking away of some of the young people from the beliefs of the older members of these households.

Through wider opportunities for different kinds of employment, through new ways of spending leisure time, through steady incomes from industrial and commercial enterprises, these village people "enjoy a higher standard of living, as measured by increased and varied wants and increased power to satisfy these wants, than before the influence of urban environment."

There is a greater use of machine-made products among them—kerosene oil, yarn, thread, cloth, elastic garters, foreign-style umbrellas, and toilet articles. In some cases power machines for hulling rice have been installed. On the other hand, crocheting and knitting have been learned.

The prejudice against having educated men do farm work still persists, idleness being considered preferable to the cultivation of land. This attitude is possibly more pronounced at present because women can now earn money and aid in supporting these educated idlers.

Health conditions of these village factory workers point to a need for a shorter working-day or shift and more rest during the time spent at the factory.

According to the report, neglect of home duties results when married women with children and a house to care for take up factory work. The changing status of women through economic independence is especially striking. Among the indications of this change are a greater respect for girls on the part of their parents and of men in general; more voice for girls in the family life; a larger contribution by them to the family income; and a later marriage age for girls.

This heightened respect for girls, however, is apparently in the direction of regarding them "as economic assets rather than human beings with minds to be educated."

Many girls will not allow their parents to select a husband for them, and some girls are even raising the question as to whether they should marry at all when they can lead more independent lives unmarried. "This attitude in a nation—in villages—where for centuries young girls have been taught, and have believed, that their duty consists of an early and prolific marriage, coupled with absolute submission to parents, elders, and males, reveals that industrialization is bringing about great changes, is indeed fostering a revolution in the clan-village system."

Effect of the Depression upon Contractual Industrial Relations in France

A DISPATCH from American Consul Howard F. Withey, Paris, France, under date of February 2, 1932, calls attention to the legal aspects of employer-employee relations under existing depressed industrial conditions in France. In this dispatch it is stated that a good deal of misunderstanding has arisen among employers and workers as to what effect abnormal conditions may have on contractual relations. As the necessity for wage and salary decreases and for discharge of employees becomes apparent, employers are faced with the question as to whether they may enforce wage cuts and discharge persons summarily. The consensus of judicial opinion in France is that action designed to cut costs at the expense of employees may not be taken without giving the advance notice or obtaining the consent provided for by contract.

It is maintained that an economic crisis may not be regarded as "force majeure." Therefore a general industrial depression is not regarded as cause for releasing an employer from any obligations he may have assumed under contract with his employees. Conversely, were the situation reversed and conditions such as to warrant greater concessions to employees, the latter would not be released from their contractual obligations. Thus, any employer who fails to secure the agreement of his employees permitting the needed wage changes or dismissals and who takes action in this direction runs a serious risk of having legal action taken against him. For in these circumstances the employee affected is entitled to damages to the extent of the monetary loss incurred by reason of a wage cut or discharge.

However, the employer need not necessarily take recourse to individual action in these circumstances, since the French system affords facilities for settling such controversies under its "Conseils de Prud'hommes," which are in fact industrial courts made up of lay members and an equal number of representatives of employers and employees. It is provided that these courts shall bend their efforts toward effecting conciliation in controversies between employers and employees and that if agreement is not secured they may arbitrate and render decisions. Although these decisions are not enforceable at law they carry considerable weight.

The employer who finds it expedient to ask concessions may, then, place his case before the court, showing the circumstances surrounding the need for modification of contractual obligations. The court, after hearing the case, may annul the contract with or without award of any kind to the employee or may hold the employer to strict performance of his contract.

In cases where no fixed term of contract exists the courts would not have jurisdiction in settling a dispute of this character. When no time limit is placed on the duration of a contract it is subject to termination at the will of either party. Nevertheless, if it is an established custom in a trade to give employees notice and/or extra or advance wages upon discharge, the employer must conform to the custom if he is to escape liability.

Report of English Committee on Working Conditions of Retail Clerks

IN NOVEMBER, 1930, the English Government appointed a select committee to report upon proposals for limiting the hours of work and improving the working conditions of shop assistants, and its report has recently been published. The committee was instructed to inquire especially—

1. What are the hours at present usually worked in the various distributive trades, both retail and wholesale.
2. What would be the probable economic effects of a statutory 48-hour week (with a limited amount of overtime) upon the distributive trades as regards organization of work, wages, employment, and prices; by what methods it could be applied to various kinds of trade; and what arrangements would be feasible for enforcing it.
3. Whether conditions of employment exist in any classes or descriptions of shops in respect of matters affecting the health and welfare of the assistants which make it desirable that powers of regulation and supervision should be given by statute.

Beginning with a historical review of the situation, the report [1] of the committee points out that the only legislation dealing directly with the hours of shop assistants is a provision, originally passed in 1886 and later embodied in the shop act of 1912, which limits the hours of young persons under 18 employed in shops to 74 a week, inclusive of mealtimes. Indirectly, however, hours are affected by acts which provide for a weekly half holiday, fix the time which must be allowed for meals, and regulate the closing time of shops, either generally or in particular trades. The intervals for meals must be three-quarters of an hour, between 11.30 a. m. and 2.30 p. m., if dinner is taken on the premises, and one hour if it is not, with half an hour for tea between 4 and 7 p. m. The only legislation dealing with working conditions is a provision that seats must be provided for female assistants in the proportion of "not less than one seat to every three female assistants employed in each room."

Turning to the present situation, the committee made a study of hours and working conditions. Hours varied widely; short, long, and excessively long working weeks being found within practically every trade. The following summary shows the average and the range of normal working hours for various trades.

AVERAGE AND RANGE OF NORMAL WORKING HOURS OF RETAIL CLERKS IN ENGLAND, BY TRADES

Trade	Average normal weekly hours	Range of normal weekly hours of great majority of assistants
Bakers and pastry cooks	54	50 to 58
Butchers	55 to 56	52 to 60
Chemists and drug stores	51 to 52	48 to 55
Confectioners (sweets and chocolates)	56	50 to 60
Cooked food and tripe shops	55 to 56	52 to 60
Dairies	52 to 53	46 to 58
Fishmongers and poulterers	54	48 to 56
Green grocers, fruiterers, and florists	55	48 to 60
Grocers and provision dealers	54	48 to 56
Hairdressers and barbers	53	48 to 56
Ice cream dealers	Over 60	Over 60
Market traders	54	52 to 55
News venders, stationers, and booksellers	52	46 to 54
Tobacconists	56	50 to 60

[1] Great Britain. Parliament. House of Commons. Select Committee on Shop Assistants. Report (3 vols.). London, 1931.

Overtime was common, but details were difficult to get. The commonest form consisting of work required after the shop had been closed for the day. Both children and women suffered from too long working hours, weeks of from 70 to 90 hours being found. Among children, the "van" or delivery boys seemed most in need of protection.

> The problem of the van boy is probably the most serious of those attaching to juvenile employment in connection with shops. These boys often have to make three rounds a day, with occasional very long trips, their meals are irregular, they are under little supervision, and on long journeys they have to sleep on the van.

The general welfare of the shop assistants is affected not only by the long hours, but in many instances by distinctly bad conditions of work. In butchers', cooked meat, fishmongers', fruiterers', florists' and green grocers' shops and in the majority of grocers' shops, there is frequently a lack of heating apparatus of any kind, except perhaps "an electric radiator or hot-water bottle for the cashier, and often there is not even this." In the larger shops ventilation was usually good, but this was not the case in smaller shops and in basement establishments. Lighting was usually, though not always, adequate. Sanitary arrangements and provisions for washing were often unsatisfactory, and in many cases either lamentably defective or nonexistent.

Recommendations

THE committee pointed out in its report that in every trade considered, some employers were found who were using a 48-hour or even shorter week, and that this shows that there is no inherent impossibility of conducting the businesses under a 48-hour schedule. It recommended, therefore, that with the exception of a few groups, such as employees in hotels and boarding houses, the normal hours of employment of all shop assistants should be limited to 48 per week. In trades where there is a reasonable demand for hours in excess of 48 per week, a fixed amount of overtime should be allowed throughout the trade, and this should be paid for at not less than time and a quarter. Five of the 11 members of the committee dissented from the recommendation of a general 48-hour week, although agreeing cordially to such a limitation in the case of young persons; they also dissented from the recommendation as to the rate of payment for overtime. They objected to fixing hours of work, on the ground that any abuses can best be dealt with by voluntary effort, that in the depressed state of trade it would be especially disadvantageous to impose a fixed week, and that the enforcement of a 48-hour week would be extremely difficult, and would involve a large increase in personnel and in the cost of inspection.

The committee carefully outlined the machinery necessary for the enforcement of its recommendations as to hours and overtime. It calls for a stricter enforcement of the law regarding the provision of seats for assistants, and asks for an investigation by the Ministry of Health into the possibility of installing adequate heating apparatus in shops where perishable goods are sold. The report adds some concurrent recommendations which the committee feels are of importance.

> Although the subject of early closing does not come within their order of reference, your committee feel obliged to insist strongly on the need for strict enforce-

ment of the acts relating to it, in the interests of shop assistants. Stricter enforcement is especially needed in respect of the statutory meal times and half-holiday regulations.

Your committee believe, moreover, that the time has come for a still further limitation of the hours during which shops may be open, and they would like to see the shops act, 1912, amended so as to enable local authorities to make closing orders for an earlier hour than 7 p. m.

Your committee support the movement for the enforced Sunday closing of shops.

Your committee consider that a stricter statutory regulation of street trading is necessary.

Legislation for special groups of workers, such as juveniles, errand boys, girls, etc., is in some cases desirable, and need not conflict with any of the recommendations of your committee.

Labor Conditions in Iceland [1]

Labor Organizations

THE first labor union in Iceland was organized among deep-sea fishermen, under the name of the Sailors' Union, in 1894. In 1897 a printers' union was formed and in 1906 an unskilled workers' organization was formed. The Federation of Labor Unions was established in 1916. At present this federation comprises 22 organizations of unskilled workers, 5 sailors' unions, 3 trade-unions, and 6 labor political organizations, a total of 36 unions in all, with some 5,600 members.

There is no general federation of Icelandic employers. Several attempts have been made in the course of the last four decades to establish employers' associations, and although several have been formed for short periods, none of them has been of a sufficiently permanent character to permit the establishment of a general federation.

Industrial Disputes

STRIKES and lockouts have seldom occurred in Iceland, though they were resorted to several times during the war in connection with labor difficulties which arose at that time. The Federal Government has thus far interfered very little in this connection, though in 1915 Parliament (*Alting*) passed a bill which prohibits State officials from striking. In 1925 a bill was passed providing for a public mediator whenever industrial disputes arise which can not be settled through private negotiation.

Safety

VERY little legislation has thus far been enacted for the protection of workers, except those engaged in fisheries. The absence of this sort of legislation may be attributed to the fact that there is practically no factory work of any kind in Iceland.

Inspection of fishing and other vessels was made compulsory by a law of 1903. Supplements to this law passed in 1922 and 1929 provided, among other things, for the appointment of a special inspector, whose duty it is to see that all vessels are inspected at regular intervals. Factory, machinery, and boiler inspection is provided for by law.

[1] Report of Edward M. Groth, American consul, Copenhagen, Denmark, Oct. 20, 1931.

Wages and Hours of Labor

In 1914 a law was enacted which insured the payment of seamen's wages, and also provided for medical attention, etc., at the expense of shipowners. In 1921, legislation was passed which limited the working-day on Icelandic steam trawlers to a maximum of 18 hours, but in 1928 this maximum (including time for meals) was shortened to 16 hours. In 1929 the working hours of artisan apprentices were also fixed by law. The closing hours of shops and other business or industrial institutions are also governed by law.

Legislation enacted in 1902 makes the payment of wages in cash compulsory, and under a law effective since 1929 wages must be paid on Saturday. The same law also makes it easy for workers to sue their employers for wages due.

Social Insurance

Some steps have been taken to provide various forms of social insurance, though much remains to be accomplished. A form of old-age insurance in all municipalities and parishes was established as early as 1890. By an act of 1909, all persons between 18 and 60 years of age are required to make contributions toward the old-age pension funds. In 1917 the yearly contribution was made 2 kroner (53.6 cents)[2] for men and 1 krone (26.8 cents) for women. The amount contributed by the Government was fixed by this law at 1 krone (26.8 cents) for each person contributing. The funds distributed each year as benefits amount to two-thirds of the contributions paid in, one-half of the State subsidy, and one-half of the interest.

Persons who have reached the age of 60 and are no longer able to provide for themselves, and who during the 5 years preceding their sixtieth birthday have received no poor relief, are entitled to pensions. Under special circumstances invalids who have not reached the age of 60 are entitled to benefits. These benefits range from 20 to 200 kroner ($5.36 to $53.60) per annum.

By the beginning of 1928 some 44 per cent of the population (or about 45,000 persons) was covered by old-age insurance, and the fund amounted to 1,028,000 kroner ($275,504). A total of 2,500 benefits had been granted up to that time and the beneficiaries had received a total of 93,000 kroner ($24,924).

Since 1903, accident insurance has been compulsory for all fishermen serving on decked vessels. In 1909 this insurance was extended to include the crews of all Icelandic steamers, sailing vessels, and motor and row boats, except the smallest two-oar boats. On January 1, 1926, accident insurance became compulsory for all wage earners except farm laborers, and those employed in nonmechanical industries, and in 1928 the compensation granted in event of death or disability was substantially increased.

The State accident insurance office, which administers this fund, is composed of two divisions, one for seamen and one for industrial workers. A manager appointed by the State administers the fund, the overhead charges of which are defrayed by the Government. Compensation is paid on the following basis:

[2] Conversions into United States currency on basis of krone=26.8 cents.

1. In case of death, a lump sum of 3,000 kroner ($804) paid at once to the survivor, who, if a widow, receives a further grant of 400 kroner ($107.20) for every dependent child under 15 years of age.

2. In case of total disability, a lump sum of 6,000 kroner ($1,608) and proportionately less for partial disability. Loss of capacity for work estimated at less than 20 per cent of normal gives no right to compensation.

3. Accidents are compensated at the rate of 5 kroner ($1.34) a day after the twenty-ninth day, but in no case for a longer period than six calendar months.

Should the insured die as the result of an accident, the following survivors receive compensation: Widow, children (legitimate, illegitimate, and stepchildren), parents or foster parents, and dependent brothers and sisters.

During 1927, the last year for which complete statistics are available, the seamen's department of the fund paid 83,000 kroner ($22,244) in benefits, of which amount 63,000 kroner ($16,884) were paid to dependent survivors of deceased persons. During the same year compensation paid by the industrial department amounted to 29,000 kroner ($7,772).

Health insurance was not established in Iceland until 1909, when the health benefit society was formed in Reykjavik. Health benefit societies must be registered according to law if they are to receive State aid.

Persons between the ages of 15 and 40 years, not suffering from chronic diseases, whose income does not exceed 4,500 kroner ($1,206) per annum and who do not own property valued at more than 10,000 kroner ($2,680) may become members of health benefit societies. These societies furnish free medical attention in case of illness, though the beneficiary must pay one-fourth of the cost of medicine used. Free hospital treatment is also given, and cash allowances, varying from 50 øre (13.4 cents) per day to two-thirds of the patient's daily earnings, may be granted in some instances. The daily cash benefit is granted only to beneficiaries over 18 years of age and in instances where illness involves the loss of employment.

The State contributes 2 kroner (53.6 cents) per annum for each member in towns and villages where there is a resident physician, and 2.25 kroner (60.3 cents) each for members elsewhere. The Government pays one-fourth of the hospital charges up to an amount not exceeding 75 øre (20.1 cents) per member.

Each society fixes its annual contribution rate, which is, however, controlled by the Government and must be sufficient to enable it to meet expenditures. The total membership of these societies is now 3,700.

Housing

As a result of the war and the increased building costs during and immediately after that period, a great shortage in housing arose in Reykjavik and other Icelandic towns. The capital suffered particularly in this regard, as its population almost doubled in the 15 years following 1913. In 1917 rents were restricted by law and this control continued until 1926. With abolition of control, rents rose and with the incentive of higher returns a building boom began which continued until the end of the first half of 1931, after which construction practically ceased.

From time to time legislation was enacted to alleviate still further the housing shortage and to prevent extortion by unreasonable landlords, but present indications are that the most acute stage of this problem was passed some time ago and that the immediate requirements of the country have been met.

A noteworthy change in building construction took place during the building boom, especially in the capital and other towns. Formerly most dwellings were of wooden construction with an outside covering of galvanized-iron sheeting. Now practically all the new houses are constructed of reinforced concrete.

Unemployment

THERE has been a steady increase in unemployment, but the actual number without work can not be stated at present as there are no governmental or other official employment agencies. In the autumn of 1930, the unemployed numbered 1,000, but at present the number is thought to be slightly higher. Despite the fact that this number should not cause particular alarm in Iceland, it is somewhat disconcerting in a country where prior to 1930 unemployment was unknown.

Steps are being taken by Parliament to legislate relief for the unemployed by carrying out a program of public works, the cost of these improvements to be defrayed by increased income and property taxation. In this connection, increased tariff schedules are also contemplated.

Restriction of Foreigners' Rights to Employment

FOREIGNERS may not be employed by Icelandic firms, with the exception of specialists for industrial and similar activities, when such specialists are unobtainable in Iceland. Farmers, however, may employ foreign workers, and Icelandic vessels may employ foreign sailors, under the provisions of the fisheries act of 1922. Exceptions may be made by the Minister of Commerce in special instances.

Labor Conditions in Lithuania, 1931

WHILE no national statistics are kept in Lithuania with respect to unemployment, estimates of the Work Inspection in Kovno place the number of unemployed at the end of the year 1931 at from 2,000 to 2,500—figures which may be considered negligible in a population of 2,340,000. Most of the unemployed were unskilled laborers who lost their jobs with the closing of the farming and building seasons. Government assistance was not invoked. In order to give employment, however, the larger municipalities in the country were obliged to carry on public works. The total expended for this purpose during the year ended December 31, 1931, was probably in the neighborhood of $100,000 to $150,000.

Wages and the cost of living.—No general cut in wages took place in Lithuania during 1931. Laborers' pay remained at about 50 cents per day. In business, unskilled clerks received from $30 to $35 and skilled employees from $70 to $100 per month.

Prices for domestically produced foodstuffs showed a declining tendency during 1931. This decline was partly offset, however, by higher rates for industrial articles because of raised import duties.[1]

[1] Data are from report of Hugh S. Fullerton, American consul at Kovno, Lithuania, Jan. 11, 1932.

HEALTH AND INDUSTRIAL HYGIENE

Malignant Growths Resulting from Exposure to Radioactive Substances

VARIOUS studies of the effects of the industrial use of radioactive materials were made following the discovery in 1924 of a new occupational disease occurring in radium dial painters in New Jersey. The occupational aspects of the disease have been covered fairly completely through the study by the United States Bureau of Labor Statistics [1] and other investigations. Dr. Harrison S. Martland, chief medical examiner of Essex County, N. J., who has been associated with the treatment and examination of many of these cases and has published numerous discussions of the findings in the cases, has recently published an article [2] on the occurrence of malignancy in radioactive persons which includes a general review of data gathered in the study of the radium dial painters. At the time of the publication of the Bureau of Labor Statistics study there were 15 known deaths among girls who had worked in the New Jersey plant in which the cause of death was believed to be radium poisoning, it having been proved by autopsy to be the cause in five cases. Since 1929 three more deaths have occurred among former employees of the New Jersey dial-painting plant, the autopsies in these cases also having shown the radium poisoning to be the cause of death.

The method of poisoning in these cases was by ingestion as a result of the general practice of pointing the brushes in the mouths, but the workers were also exposed to radioactivity by absorption of the substance through the skin and by inhalation of the dust of the luminous paint, although these causes were not important. The girls affected by the radium had swallowed the paint for periods of from one to four years or more. Most of this paint was rapidly eliminated through the gastro-intestinal tract, but a small amount "was continually absorbed and eventually stored as an insoluble sulphate in particulate or colloidal form in the main organs of the reticulo-endothelial system and, above all, in the bones." The deposits in the bones were spread over the entire body, but there has been shown to be an irregular distribution in the individual bones with often a concentration especially in the dense outer layer of the bone. Once deposited in the bones, the radioactive material discharged its radiations year after year with practically no diminution. Autopsies in these cases have shown that the lethal amount of radioactive substances ranged from 10 to 180 micrograms estimated as radium element, distributed over the entire skeleton. Because of the fact that dial painters usually lived several years after leaving this work, the radioactive substances found at death were limited to the bones, the organs (like the liver and the spleen) which store the substance having eliminated practically all these deposits. In former dial painters

[1] Labor Review, June, 1929, pp. 20-61. A study of these cases by the U. S. Public Health Service has also been made, but is not yet published.

[2] The occurrence of malignancy in radioactive persons, by Harrison S. Martland, M. D. Reprinted from The American Journal of Cancer, New York, October, 1931.

who are still living and who are suffering from the radium poisoning, it is estimated that the amounts of radium in the body are from 2 to 15 to 20 micrograms. It is possible to detect such small amounts in the living person only by the use of electrometers.

The rays emitted by the deposits in the bones are about 92 per cent alpha and only 8 per cent beta and gamma. The injury in these occupational cases, therefore, is from the alpha rays, a type of radiation which has never before been known to occur in human beings. Alpha particles are said to be the most potent and destructive agent known to science. They are discharged from the nuclei of the parent radioactive atoms at an initial velocity equal to 12,000 to 18,000 miles per second. Biologically these rays are more destructive than either beta or gamma rays, the relation being 10,000 to 100 to 1, so that radioactive elements in such small quantities that the beta and gamma rays are practically harmless will produce intense physiologic effects through their alpha radiations. Mesothorium, which was largely used in luminous paint, in equilibrium with radiothorium emits five alpha particles as compared to four from radium, and also the alpha rays have a greater velocity and penetration that those of radium. In order to show the infinitesimal amount of radioactive substance necessary to destroy life, the following illustration is given: "A milligram of radium bromide is not much larger than a small grain of sand. One microgram is only one thousandth as large, is invisible, and can not be detected by any known chemical method. It is necessary to have only ten micrograms, or one hundred-thousandth of a gram, distributed over the entire skeleton to produce a horrible death years after it has been ingested."

In addition to the 18 fatalities, there are said to be some 30 former employees of the New Jersey plant who are either suffering from typical symptoms of radium poisoning now or who because of their radioactivity may develop crippling or fatal lesions at any time. It is not known, of course, how many girls who have gone to other parts of the country may have died as a result of this poisoning, as the symptoms are so insidious and confusing that it is probable the cases would not be properly diagnosed.

Differences Between the Early and Late Cases

THERE appears to be a decided difference in the effects of the radioactivity between what Doctor Martland designates as the early and the late cases. In the first 13 deaths, which occurred from 1922 to 1928 and which had developed in from four to six years after the girls had left employment, the cases were characterized by the development of jaw necroses and anemias. In these cases the preponderance of mesothorium is considered to have been the cause of the intense radiation osteitis (inflammation of the bone) which most often appeared in the mouth where the added possibility of bacterial infection aided the development of extensive and intractible necrosis of the jaw. In these cases there was also a leukopenic anemia of the regenerative type. In the late cases, in which from six to seven years have elapsed since the termination of exposure, the patients seem to have escaped the extensive necroses of the jaw and the fatal anemias, but instead show chronic crippling bone lesions. These lesions are most frequently present in bones which are most subject

to weight, pressure, and trauma. In these cases, while the anemias are of the same regenerative type, they are milder. The difference in the symptomatology of the early and late cases appears, from the electroscopic studies on radioactive persons during life and after death, to be due to the preponderance of mesothorium or of radium. In the early cases mesothorium predominated, while in the late cases only radium has been detected in the post-mortem examinations. This is an interesting point, since there is said to have been at first a strong tendency among some of those interested in the production and therapeutic use of radium to place the entire blame on mesothorium.

The occurrence of two deaths from bone sarcomas, one death occurring in 1924 and the other in 1927, were reported in 1929. Since the end of 1929 there have been three more deaths from bone sarcomas, and three other cases have been reported. One of these cases is that of a dial painter who had been described in 1925 as a healthy case, but who has recently sustained a spontaneous fracture of the femur at the site of which an osteogenic sarcoma [3] has developed. In another case in which a similar fracture was sustained, the fracture failed to unite and a sarcoma was suspected, while in the third case an osteogenic sarcoma was found in one of the pelvic bones. Doctor Martland states that "it would now appear that we have reached a point when we will no longer encounter the anemias and jaw necroses seen in the earlier cases, but instead the girls will appear with terrible, usually rapidly growing, embryonal or anaplastic osteogenic sarcomas, the result of radioactivity."

In describing radiation osteitis, the author says, "In a radioactive dial painter who has, for example, 10 micrograms of radioactive substances deposited as insoluble sulphates in the entire skeleton, there are constantly being ejected about 370,000 space-occupying alpha particles a second, with a speed approximating 18,000 miles per second. This bombardment which I have designated as an internal bombardment is continuous, and will last for an indefinite period. For instance, in the year 3491 A. D., the skeleton will still be giving off 185,000 alpha particles per second." The effect of this bombardment is to cause successive changes in the bone and the marrow. In the first stage, owing to the change in the type and character of the blood cells, a hyperplastic red marrow is formed and the change in the type of the blood cells thrown into the blood stream causes a blood picture similar to Addisonian anemia. The second stage of the radiation osteitis is the formation of patchy areas over the skeleton which can with difficulty be distinguished from sarcoma and in which areas the sarcoma arises, while finally in the third stage the marrow is replaced by a noncellular fibrous tissue and the bones become soft, partially decalcified, and bone deformities and spontaneous fractures are likely to occur.

Other Cases of Radium Poisoning

In addition to the fact that the internal alpha radiation has this effect upon the development of malignancy in bones, an interesting point is brought out in connection with the incidence of primary

[3] "Osteogenic sarcoma" is used to denote a tumor arising from cells whose function is to form bone but which may not always do so.

carcinoma of the lungs in the cobalt miners of Schneeberg, Saxony, and in the pitch-blende mines of Joachimsthal, Bohemia. It is only recently that the possibility has been suggested that the radioactive element in the ores mined in these localities were responsible for the lung cancer in these workers. The fact that an occupational disease existed among these workers has been recognized for centuries. An official investigation was made a few years ago in which 154 miners were subjected to modern methods of diagnosis. During the period of study (3¼ years) 21 of the miners died, and in 13 cases, or 62 per cent, a diagnosis of carcinoma of the lung was established at the autopsy. Many theories have been advanced as to the cause of these cancers, but in view of the fact that the ore is radioactive and there is a certain amount of radioactivity in the air of these mines, together with the points of similarity between the carcinomas of the miners and the sarcomas of the radium dial painters, it is now believed that the radioactive emanation is the causative factor. In this connection it is interesting to note that a recent work [4] on industrial diseases in Germany, by Dr. Ernest W. Baader, states that he has visited both these mining localities and that in his opinion radium is the main cause of the carcinoma of the lung found among these workers. He says that although the amount of radium emanation in these mines is only 50 and 70 maché units, respectively, which is very much below the therapeutic doses, while the radium in the pitch-blende must be infinitesimal, the miners are subject to this exposure for a long period, usually 20 to 30 years, before the tumor develops. These cases suggest that radioactivity in the human body may play an important part in the production of other forms of malignancy. Thus a source of danger is the sale, usually by quacks, of the radioactive waters for the cure of all sorts of diseases. There are two types of such water sold—those containing radioactive substances in solution and those containing only emanation. The first type is considered by Doctor Martland to be distinctly dangerous, in view of the proven effects of small amounts of radioactive substances in the dial painters, and although there is a rapid escape of the gas from the water when the so-called emanators or activators are used, he is now inclined to believe that the drinking of water which contains radon, over a long period of time, may increase the normal radioactivity of the body to a point productive of malignancy.

Conclusions

In summing up the studies Doctor Martland states that the findings indicate that it is important to have proper medical supervision over the use of radium and X rays for therapeutic purposes, and governmental control over industries and occupations in which there is exposure to radioactive substances. The use of these substances for treatment he believes should be confined to hospitals and institutions which specialize in and are competent to handle such treatments, while in their industrial use there should be strict control and, if the exposure can not be reduced to a safety minimum, the procedure should be changed, or, if this can not be done, the industry should be discontinued.

[4] The Lancet, London, Nov. 28, 1931, pp. 1212, 1213.

Absorption of Hydrocyanic Acid Gas Through the Skin

A SHORT article by Philip Drinker in The Journal of Industrial Hygiene, January, 1932, calls attention to the possibility of poisoning from hydrocyanic gas by absorption through the skin.

Although a few writers have mentioned the possibility of cutaneous absorption of the gas, in general, little attention has been given to the danger of poisoning in this way. To show the necessity, therefore, for taking precautions in the use of this fumigant against the possibility of skin absorption, the following case in which three men narrowly escaped serious poisoning is cited:

> Three men were wearing gas masks in an atmosphere containing approximately 2 per cent of hydrocyanic acid gas and the masks were giving excellent respiratory protection. After 8 or 10 minutes, however, the men felt symptoms of marked dizziness, weakness, and throbbing pulse. They immediately left the poisonous atmosphere and were just in time to avoid collapse and unconsciousness. Marked weakness and high-pulse rate, together with a headache, persisted for several hours after exposure, and the men were incapacitated for two or three days. However, recovery was apparently complete at the end of that time.

In several instances the medical literature on industrial diseases mentions the possibility of absorption of the gas through the skin, the writer states, although four of the well-known works on this subject do not refer to such a hazard. The absence of information in these four generally used books is regarded as proof that this action of the gas is generally unknown. Since 1928, however, the United States Bureau of Mines has required a label to be placed on canister masks approved for use against hydrocyanic acid gas, stating that while the canister will give respiratory protection in atmospheres containing 2 per cent hydrocyanic acid gas, it is not safe to submit to such high concentrations since the gas is absorbed through the unprotected skin of the body and in that manner will produce poisoning.

Effects of Different Temperatures on Health and Efficiency

A PAMPHLET recently issued by the Metropolitan Life Insurance Co.[1] deals with the air conditions and temperatures which contribute to the comfort and efficiency of workers.

The harmful effects of air conditions on the human body are the result of abnormal deviations in its physical properties, such as the air pressure, gaseous constituents and the presence of impurities such as dusts, disease-producing bacteria, and toxic gases. The physical properties of the air which determine the comfort or discomfort felt by the human body are the temperature, the moisture content, and the rate of air movement. Formerly it was believed to be necessary to control the air temperature only, without regard to its moisture content or rate of movement, and certain degrees of temperature were, therefore, recommended as standards. But it is now understood that the moisture and air movement are also important. In order that the human body may maintain a constant temperature, the clothing must provide adjustable insulation for downward temperatures, or provision must be made for adjusting the temperature of rooms, while

[1] Metropolitan Life Insurance Co. Policyholders Service Bureau. Industrial health series No. 5: Air conditions and the comfort of workers. New York [1932?].

for the upward range of temperature the body must be able to give off to the environment the excess of body heat. Practically all the excess of body heat is given off by radiation; by convection, that is, by diffusion through the motion of currents of air; and by evaporation. The amount lost in each of these ways is determined by the temperature, the moisture content of the air, and the amount of air movement. When the temperature of the environment rises the radiation and convection decrease until, when the outside temperature reaches that of the body, all loss by radiation and convection is stopped and evaporation of water from the body surface alone remains. When the surrounding temperature is higher than that of the body the conditions are reversed and heat passes from the air to the body.

It seems impossible to maintain a temperature for a group of individuals which is acceptable to every one, so that within a certain range it is desirable to maintain the temperature of the workplace or other location at a point which is satisfactory to the larger number, leaving the others to accommodate themselves to the selected conditions by adjustment of clothing.

In winter it has generally been considered that a temperature range between 68° F. and 72° F. is desirable for sedentary workers. It is also considered advisable to provide a fair percentage of moisture in the air, both because air low in moisture content tends to dry up the mucous membranes of nose, throat, and lungs, thus lowering the resistance of these organs to infection, and because it has been demonstrated that comfort demands higher temperatures when the percentage of moisture is low. Excessive humidity, on the other hand, is undesirable because it interferes with the normal evaporation of moisture from the skin. A range of relative humidities between 40 and 60 per cent is considered to be practicable and acceptable and an air movement of about 25 to 35 linear feet per minute is regarded as usually satisfactory. In summer the maintenance of such temperatures indoors is undesirable whenever the out-of-doors temperature is excessively high, because of the sensations of intense heat or of chill experienced on leaving such a building. On this account the indoor temperature should not be reduced more than 10° to 15° below the outside temperature under maximum outside conditions.

Engineers have correlated the physiologic responses of the body to a great variety of environmental temperature conditions and have decided upon the temperature, humidity, and air motion combinations which give equal sensations of warmth or cold. The index of these conditions has been named the "effective temperature."

Experiments on human subjects exposed to unusual temperatures and humidities under accurately controlled conditions have shown that these persons lost physiological efficiency beyond certain temperature limits. The upper limit for a man at rest and in still air is about 90° F., saturated or effective temperature. This upper limit is raised to about 95° if an air circulation equal to 200 feet per minute is set up, due to the cooling effect of air motion, and the limit is raised still higher if the air velocity is doubled. If physical work is done it was found that the limit of heat which can be endured physiologically falls considerably below 90° and if muscular work of 90,000 foot-pounds an hour is performed the limit is about 80° effective temperature. These temperature limits will be slightly modified by seasonal variations and differences in clothing. Above these temperature

limits the mechanism of the body becomes affected by the overheating, and while the body makes strenuous efforts to resist the rise in its temperature by evaporation from the surface through perspiration, the limit of the effect of this action is reached in temperatures exceeding the above limits, with the result that physiological reactions occur.

The most apparent of these reactions occurs in the circulatory system, evidently starting with the rise in skin temperature. There is an increase in the heart rate, flushing of the skin, and profuse sweating, and as sweating continues the volume of the circulatory blood supply may be substantially reduced through loss of water from the blood. As this results in insufficient blood returning through the veins, the heart compensates for the loss by beating faster. It is considered probable that under these circumstances the surface blood vessels fail to maintain their tension as shown by the fall of the diastolic (dilation) blood pressure and the rise in the systolic (contraction) blood pressure. A rise in the body temperature accompanies these changes in the circulation.

The degree of discomfort felt by the subjects of the experiments appeared to be better determined by the increase in the pulse rate than by the rise in body temperature. When the pulse rate exceeded 135 beats a minute, the subjects complained of discomfort, headache, palpitation of the heart, and extreme thirst, and became restless and irritable. With an increase in the pulse rate to over 160 beats a minute, the condition became distressing and unbearable, with dizziness and confusion, followed frequently by nausea and numbness or soreness of the face. Increase in the severity of the test beyond this point caused a feeling of "floating in the air" and the experiments were stopped because of fear of heat stroke.

There was a slight increase in internal temperature when the subjects left the test chamber, but the pulse rate dropped rapidly and there was immediate improvement in their condition, which returned to normal in a short time. The principal aftereffect was lassitude and extreme thirst, although the free drinking of water during the exposures apparently had little or no effect on delaying the other physiological reactions.

The necessity for controlling unfavorable temperature conditions is shown by these few examples of the many changes which occur within the human body when subjected to conditions which prevent the usual loss of surplus body heat. Even when these body changes are very slight it has been found that the disturbances of the body functions exert a marked effect on human efficiency. The experiments showed that the maximum amount of work was performed between the effective temperature limits of 40° and 75°. At a temperature of 100° with a relative humidity of 30 per cent, subjects could perform four times as much work as they could when the humidity was 100 per cent, while with the ordinary summer day humidity of 60 per cent five times more work was performed in a temperature of 90° than in one of 120°. When the effective temperature of the environment is below the temperature of the body, air movement has a beneficial effect but when it is above body temperature air movement increases the discomfort.

If comfortable working conditions are to be maintained in industries where various sources of heat exist, such as furnaces, power-driven

machinery, etc., the air within the building must be carried off and replaced by cooler air. The use of hoods or exhausts for the removal of local heat at the source is desirable or it is possible to locate many of the sources of heat, such as boiler or fire rooms, and hot water or steam pipes away from the working places of employees not concerned in such operation, or heat radiation can be minimized sometimes by insulation—a satisfactory method in the case of furnaces. In the case of other sources of heat, artificial ventilation may be required to supplement natural ventilation, but the problems are different in different places and may require the services of engineers qualified in the science of ventilation and air conditioning. It is said in the report that the proper distribution of air within the occupied area is very important, and reliable information on the subject, especially as regards avoidance of drafts, is lacking so that further research along this line is desirable. Various measures for the removal of dusts and smoke or toxic fumes or gases from workplaces are required, these measures depending upon the particular hazard in the different industries.

INDUSTRIAL ACCIDENTS

Fatal Accidents in Kansas, 1930

A SUMMARY of accidental deaths in Kansas during 1930, furnished by Dr. Earle G. Brown, secretary of the Kansas State Board of Health, shows that only five of the industrial fatalities originated in connection with the manufacturing industry. Building and contracting were charged with 26 deaths, and public utilities and railroads with 61 deaths, but these industries were completely overshadowed by the 125 deaths originating in connection with farm work. This means that farm work was responsible for 48.4 per cent of the 258 deaths due to occupational accidents or for 7.7 per cent of all accidental deaths in the State during the year.

An accompanying analysis of 101 of the 125 deaths originating in connection with farm work showed that injuries received from farm machinery were responsible for the largest number listed under one cause, a total of 35. The primary cause, however, in 8 of these machinery accidents was runaway of the team hitched to the machinery, in 4 the injuries were received through being caught in the machinery, falls from the machinery were responsible for another 4, and fire or explosion from the machinery for still 4 others.

Injuries from animals were responsible for 23 of the fatalities, 12 being caused by a kick by a horse or mule and 5 by being "gored by a bull"; falls on the level and falls from ladders or other elevations aside from machines were responsible for 11 deaths.

Causes shown for the minor groups are: Excessive heat, and lightning, 5 each; falling objects, 4; explosives, handling of objects, and burns except in connection with machinery, 3 each; poisonous gases, extreme cold, and striking against objects, 2 each; and electricity, doors, and hand tools, 1 each.

The age of the persons involved ranged from 14 years to 92 years, with an average of 49.9 years. Only 1 was under 15 years of age, and while 10 others were less than 20 years old, 25 victims were 65 years of age or over.

The 101 cases include 4 females, all housewives. One was gored by a bull, while in the pasture milking; 1 was struck by lightning while removing clothes from a line hooked to a tree which was struck; 1 was injured by a door of a grain bin blowing shut; and 1 was burned to death when clothes ignited from a brooder stove. Another female, a student, was also burned to death in similar manner.

The total of accidental deaths for 1930 is stated to be the highest ever recorded in Kansas for a 12-month period. It amounted to 8.3 per cent of all deaths, and established a death rate from accidents at 86.5 per 100,000 population.

The following table shows the total number of fatal accidents in the State in 1930, by type:

NUMBER OF ACCIDENTAL FATALITIES IN KANSAS IN 1930, BY TYPE

Type	Number	Type	Number
Industrial:		Public, not motor vehicle:	
Manufacturing	5	Railroad	45
Public utilities and railroads	61	Electric car	2
Building and contracting	26	Other vehicle	1
Farming	125	Airplane	33
Others	41	Falls	20
		Burns, scalds, and explosions	1
Total	258	Drowning	61
		Firearms	40
		Others	64
Motor vehicle:		Total	282
Collision with pedestrian	118		
Collision with motor vehicle	124	Home:	
Collision with railroad train	53	Falls	250
Collision with electric car	3	Burns, scalds, and explosions	128
Collision with bicycle	3	Asphyxiation and suffocation	38
Collision with horse-drawn vehicle	2	Poisons	40
Collision with fixed object	38	Cuts and scratches	11
Noncollision operating accident	174	Others	95
Nonoperating accident	5	Total	568
Total	520	Grand total	1,628

LABOR LAWS

Labor Legislation of 1931

THE legislatures of 44 States met in regular session in 1931. The Kentucky, Louisiana, Mississippi, and Virginia legislatures were the only ones which did not meet in regular session during the year, but, of these four, two (those of Louisiana and Mississippi) held special sessions. In addition to their regular sessions 16 States[1] also called extra or special sessions of the legislature.

In the main, the special sessions were called for the purpose of enacting legislation to relieve the economic situation in the cotton and oil industries, and to provide relief due to the widespread unemployment conditions. Many of the States, either by direct appropriation from the treasury or by bond issue, provided for the construction of public works and for other methods to relieve the situation.

Four territorial legislatures also met in regular session in 1931 (those of Alaska, Hawaii, Porto Rico, and the Philippine Islands). The public laws of 1931 for the Philippine Islands, however, are not yet available.

The third session of the Seventy-first Congress of the United States was held during the early part of 1931, adjourning on March 4, 1931. The Seventy-second Congress convened in December of the same year.

Legislation affecting labor in some respect was passed by all of the legislatures, State, insular, or national, holding regular sessions during 1931.

Five States (Delaware, Idaho, New Hampshire, New Jersey, and West Virginia) provided for the establishment of old-age pension systems, making a total of 17 States[2] (not including Alaska) having such legislation on the statute books at the beginning of January 1, 1932.

Several States (Arizona, Colorado, Ohio, Oregon, and Wisconsin) passed legislation declaring antiunion contracts to be against public policy and void. Such contracts are those whereby either party to an employment contract undertakes not to join, etc., a labor union or organization of employers. The General Assembly of the State of Colorado ratified the Federal child labor amendment.

In a number of States (Illinois, Maine, Michigan, New Jersey, and Pennsylvania) legislation was enacted which prohibits the selling of imported convict-made goods in the State, thereby taking advantage of the Federal law, divesting convict-made goods of their interstate character, which becomes effective on January 19, 1934.[3] Three States (Illinois, Vermont, and Wisconsin) appointed investigative commissions to study the problem of the employment of State prisoners, with a view of establishing a State policy, upon the effective date of the Federal convict labor act.

In North Carolina the weekly hours of labor for women were reduced from 60 to 55.

[1] Arizona, Arkansas, Florida, Georgia, Idaho, Illinois, Massachusetts, Nebraska, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, and Wisconsin.
[2] California, Colorado, Delaware, Idaho, Kentucky, Maryland, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New York, Utah, West Virginia, Wisconsin, and Wyoming.
[3] For copy of this law see Labor Review, March, 1929, p. 126.

By an act of March 3, 1931 (ch. 411, 46 U. S. Stat. at L. 1494), Congress provided for the payment of the prevailing rate of wages on every contract in excess of $5,000 "in the construction, alteration, and repair of any public buildings of the United States." Several States (Alaska, California, Illinois, Montana, New Jersey, Ohio, Pennsylvania, Texas, Washington, and Wisconsin) also enacted legislation governing the payment of wages to employees engaged on public works[4]; in several cases the provisions of the State laws followed closely the Federal act.

This review of labor legislation for 1931 offers merely an outline under topical headings. The subject of workmen's compensation legislation is not here covered; a résumé of action in that field in 1931 was published in the January, 1932, issue of the Labor Review. References to laws on the subject of occupational licenses and absent voting are not contained in this article.[5]

Contract of Employment

THE following States declared void all antiunion contracts, that is, all contracts of employment which stipulate that neither party to the contract may join a labor organization or any organization of employers: Arizona (ch. 19), Colorado (ch. 112), Ohio (S. B. No. 108, p. 562), Oregon (ch. 247), and Wisconsin (ch. 376). The employment of relatives in public offices was prohibited by an act of Arizona (ch. 52) and one of Utah (ch. 13). Employees in the Ohio naval militia were protected against discrimination by House Bill No. 479 (p. 152). A penalty has been provided in Massachusetts by the provisions of chapter 304, whenever a woman or child is required to work without compensation as a condition for securing employment. Oregon enacted a law (ch. 101) for the training of apprentices; under the provisions of the act a State apprenticeship commission is set up, consisting of the State superintendent of public instruction, the State labor commissioner, and a member of the industrial accident commission. An employee is protected in the right to hold public office or to vote, by an act passed by the Wyoming Legislature. (Ch. 37.)

The regulation of crop-sharing contracts was the subject of legislation in Porto Rico (Act No. 76), and the commissioner of labor is charged with the enforcement of the law. New Jersey (ch. 305) exempted from the provisions of the act of 1930 (ch. 104)—prohibiting discrimination in public service on account of age—persons who are eligible to membership in the teachers' pension and annuity fund.

The Legislature of South Dakota by chapter 174 authorized the secretary of agriculture to promote the enforcement of laws relating to the employment of women and children.

The Sunday labor law was amended in several States, generally providing for the exemption of certain employments or activities from the provisions of the law. The following States acted upon the subject: Alaska (ch. 20), Connecticut (ch. 155, p. 267), Delaware (ch. 269), Maryland (ch. 66), Massachusetts (chs. 71 and 240), Nebraska (ch. 43), New Hampshire (ch. 155), New Mexico (ch. 29), Ohio (S. B. No. 77, p. 192), South Carolina (Act No. 47), Texas (ch. 116), and Wisconsin (ch. 267).

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[4] For the text of laws on this subject see Labor Review, February, 1932, pp. 307–323.

[5] A more complete summary, and reproduction of some of the labor laws, will be given in a bulletin on labor legislation for 1931.

The subject of giving preference in the employment of labor and materials on public works was legislated upon in many States. For employment upon public works it was specifically provided that only citizens of the State, residents of a particular locality, or veterans be employed. The employment of aliens was prohibited in several States. The subject was considered in Alaska (H. J. Res. No. 4, p. 264), Arizona (chs. 4 and 31), California (ch. 398), Connecticut (ch. 290, p. 253), Florida (H. Con. Res. No. 7, p. 1027), Iowa (ch. 20), Massachusetts (chs. 125, 316, and 377), Michigan (Acts No. 66 and 241), Minnesota (chs. 121, 276, and 347), New Jersey (chs. 27 and 492), New Mexico (ch. 20), North Dakota (ch. 205, sec. 10), Rhode Island (ch. 1752), South Carolina (Act No. 154, J. Res.), Vermont (Act No. 69,), and Wisconsin (ch. 22, p. 36).

On an initiative and referendum measure submitted to the people of the State of Arizona on November 4, 1930, it was voted to amend the constitution so as to direct the employment only of citizens of the United States on public works. (Ch. 105, p. 493.)

In order to provide for the stabilization of employment, Congress passed a law (ch. 117, 46 U. S. Stat. at L. 1084, Public, No. 616) providing for the advance planning and regulation of the construction of public works. The law has been designated as the "employment stabilization act of 1931."

In addition to extending preferences to labor, several States also legislated upon the subject of providing for local or domestic materials on construction of public works, etc.: Alaska (H. J. Res. No. 7, p. 266), California (ch. 632 and Con. Res. No. 12, ch. 59, p. 3113), Georgia (Res. No. 10, p. 1060), Indiana (ch. 91), Massachusetts (ch. 228), and Wyoming (ch. 50).

Employment Agencies

Private agencies.—Arizona (ch. 112) enacted a new private-employment-agency law. In California the commissioner of labor was empowered (by ch. 827) to revoke a license of a private employment agency whenever the public utilities law is violated. In Illinois the Department of Labor was empowered to formulate rules, etc. for the conduct of private agencies (p. 569). Additional charges other than those specified in the law for services are prohibited by chapter 216 of the Kansas law. Labor organizations maintaining employment agencies are exempt from the provisions of the employment agency law in Michigan by the provisions of Act No. 206. The Labor Commissioner of Nevada was authorized (by ch. 45) to deny a license to a private agency in places where a free employment service is adequately serving a community.

Public agencies.—By an act (p. 569) in Illinois, the Department of Labor was authorized to establish in Chicago five public employment agencies instead of four. In Michigan, Act No. 306 authorized any city to establish and operate a free employment bureau, while registration fees are discontinued by the provisions of Act No. 208. Missouri authorized the establishment of free public employment bureaus in cities of 50,000 instead of limiting the law to cities of 75,000 as heretofore (p. 258). Pennsylvania, by Act No. 346, appropriated $50,000 for the Department of Labor for the purpose of

conducting an experimental employment agency in Philadelphia.[6] In Vermont (Act No. 117) provision was made for the maintenance of public employment offices in certain municipalities.

Group Life Insurance

FIVE States passed laws concerning group life insurance. Texas (ch. 101) enacted a law defining and otherwise regulating group life insurance. Connecticut (ch. 142) authorized any city to purchase group life insurance for its employees. North Carolina (ch. 328), Pennsylvania (Acts No. 274 and 335), and Wisconsin (ch. 151) enlarged the coverage of their group life insurance laws.

Hours of Labor

Women and children.—Women employed in railroad yard offices are exempt from the hours of labor law in Arizona (ch. 14), as are those in Arkansas (Act No. 58) employed by railroads regulated by the Federal hours of labor act. The 9-hour day limitation law in Maine no longer is applicable to women or minors under 16 employed in laundries, yet the 54-hour week limitation is not affected. (Ch. 144.) Women may now be employed until 12.30 a. m. in Nebraska (ch. 97) provided the employment does not exceed nine hours in any one day. In New York the hours of labor law for women and children was amended (by ch. 509) by reducing the overtime allowance for the 6-day worker to 22 hours and for the 5½-day worker to 35 hours. The Legislature of North Carolina adopted several measures tending to improve the working conditions of the women and children. Thus, by chapter 289, the weekly limitation of hours of labor for women was reduced from 60 to 55, while night work for women, between the ages of 16 and 18, was prohibited between the hours of 9 p. m. and 6 a. m. (Ch. 112.) The child labor law of the same State was also amended to permit newsboys to work between 5 a. m. and 8 p. m., subject to a maximum of 4 hours' employment per day and 24 hours per week (ch. 125), while chapter 391 made certain additions to the list of hazardous industries in which the employment of children is prohibited. In Wisconsin chapter 235 merely amended the violation features of the law regulating the hours of labor of women employed in hotels.

Miscellaneous.—In Wyoming, the provisions of chapter 73, sections 62 and 63, make it unlawful to require or knowingly permit more than eight hours' labor per day in underground mines and reduction works. In California trainmen, etc., employed on any railroad under the control of the board of harbor commissioners must be paid time and one-half for work in excess of eight hours. (Ch. 156.) In Porto Rico (by Act No. 80) overtime at double rates may be permitted whenever it is urgent and necessary; permission must be obtained from the commissioner of labor, who may also investigate the motives for the request.

The hours of labor on public works received consideration in California (ch. 1144), New York (ch. 785, special session), Oregon (ch. 330), and Wyoming (ch. 130).

The limitation of the working hours of employees of motor carriers was the subject of legislation in several States. While these acts

[6] See Pennsylvania Department of Labor and Industry, Labor and Industry, January, 1932, p. 1: Plans or Philadelphia's Model Employment Office.

were enacted primarily for the safety of the traveling public, yet they are worthy of mention in a review of the hours of labor of employees in general. The limitations are as follows: Alabama, 8 hours; Georgia, 10 hours; Iowa, 16 hours; and Nebraska and Arizona (special session) 12 hours. The hours of employment are consecutive in most cases, and do not apply in emergency cases.

Child Labor

THE Federal child labor amendment was ratified by the General Assembly of Colorado. (H. Con. Res. No. 9, p. 827.) The child labor law of Delaware was amended by raising, from 12 to 14, the age at which a child may be employed in a canning factory (ch. 238), while in Pennsylvania (Act No. 309) a nonresident child under 16 is prohibited from work in a factory or cannery during the time in which the laws of the State of his residence require his attendance at school. In Maine (ch. 165) minors under 16 are prohibited from working in projection booths of motion-picture theaters. The commissioner of industries in Vermont may hereafter refuse a work permit whenever a child is physically unfit. (Act No. 115.) The Rhode Island law was amended to allow children to engage in dancing, theatrical, or musical performances whenever the public schools are not in session (ch. 1756). The protection of the law in regard to the employment of children was also lessened in Vermont (Act No. 116) by exempting children in vocational schools from the law forbidding employment about dangerous machinery, provided the work place is found to be safe and is approved by the commissioner of industries. The subject of school attendance received attention in Alabama (Act No. 356), Maryland (chs. 158 and 182), and Massachusetts (ch. 394, secs. 154–158, pp. 520–522), while the subject of continuation schools for employed children was legislated upon in Connecticut (ch. 249, p. 47) and New Jersey (ch. 307). The child labor law was also enlarged in other respects in Missouri (p. 169), Porto Rico (Act No. 75), and South Dakota (ch. 92).

Safety and Health

Employment in mines, etc.—The coal-mining law and the metal-mining law were amended in several respects in Colorado by chapters 61 and 115, respectively. In Ohio an act (S. B. No. 321, p. 603) was passed, which revised the coal-mining code and substituted many new and amended sections. The Arizona mining law was amended by chapter 27, regulating the equipment and increasing the operating speed of hoists from 800 to 1,500 feet per minute; the signal code was also amended in this State. The mine-examining board in Kansas was decreased from four to three members. (Ch. 282.) The mine inspector's act was extended in Nevada (ch. 167) to include the inspection of tunnels, etc.; and the deputy mine inspector's salary was increased from $200 to $225 a month (ch. 185). The safety and health of miners were considered also in Utah and Wyoming. In the former State free hospital and medical service are provided for certain disabled miners by chapter 63; while in the latter State the law relating to safety cables in mines now requires that man-trip cars must be set aside and used only for man-trip purposes. (Ch. 63.)

Boiler inspection.—A new boiler inspection law was promulgated in Maine by chapter 158. In Colorado (ch. 56) the fees for the inspection of certain type boilers were fixed.

Factory inspection.—The Illinois law providing for washrooms in factories, etc. was extended by an act (p. 575) to cover railroads. In New Mexico seats must be provided for women employed in factories, etc., and their use must be permitted. (Ch. 109.) The health of the employee in factories, etc., was considered in Rhode Island. (Ch. 1741.) The Vermont law forbidding smoking in factories was extended to cover public buildings. (Act No. 167.)

Miscellaneous.—The regulation of dry-cleaning establishments was the subject of legislation in California (chs. 424 and 425), Michigan (Act No. 213), Minnesota (ch. 268), Ohio (H. B. No. 115, p. 97), and Wisconsin (ch. 99). Maine adopted a law (ch. 164) relating to work in compressed-air chambers.[7] A detailed act (H. B. No. 45, p. 229) regulating the manufacture, etc., of fireworks was passed in Ohio, while in Washington a new act (ch. 111) relating to the manufacture, etc., of explosives was adopted. The subject of the inspection of bakeries, etc., was undertaken in California (ch. 176), and Rhode Island (ch. 1742). In Connecticut the inspection of bakeries was transferred from the commissioner of labor and factory inspection to the dairy and food commissioner. (Ch. 141, p. 178.) New York amended the labor law and extended the requirement of seats for elevator operators to elevators in State-owned buildings. (Ch. 497). Hereafter the Connecticut law requiring the report of all occupational diseases will not be admissible as evidence in any action under the workmen's compensation law. (Ch. 145, p. 173.) Wisconsin (ch. 189) strengthened the law relative to the use of certain toilet facilities; the industrial commission, the State board of health, and the railroad commission are charged with the enforcement of the act. Oil and gas companies in Montana (ch. 143) must hereafter provide gas masks and safety devices to workmen employed in suffocating employments. The carrying of more than 250 pounds is now prohibited in Porto Rico by Act No. 64. The law regulating employment in laundries in Rhode Island was amended by chapter 1767, and made applicable to the town of Bristol, upon acceptance by the town council. The full-crew train law was the subject of legislation in Wisconsin by the provisions of chapter 304, and the law now applies also to engines used for the purpose of switching.

Factory inspection.—By an act (ch. 96) in Nebraska a lunch period of 30 minutes must be provided all employees in assembly plants, workshops, or mechanical establishments. Employees must also be permitted to leave the building during such recess period.

Miscellaneous.—New Jersey considered the subject of accidents, by providing for instruction in accident prevention in the schools of the State (ch. 50) and for the reporting of accidents (ch. 278). Under the latter act an employer is no longer deprived of defenses under the workmen's compensation law for failure to report accidents.

Wages

THE Alabama Legislature passed a law (Act No. 525) effective January 1, 1933, requiring every public-service corporation engaged in the transportation business and employing 50 or more employees, to pay its employees every two weeks. The wage-payment law was enlarged and procedure and penalties for violations were changed in

[7] For the text of this law see Labor Review, June, 1931, p. 92.

Arizona (ch. 54) and California (chs. 878, 1047, and 1090). A semimonthly instead of weekly payment of wages was permitted in Kansas by chapter 215. The pay of scrub women employed by the State of Massachusetts was established at $18 for a basic week of 33 hours. (Ch. 372.) In Nevada violations of the wage-payment law were declared misdemeanors (by ch. 152), while in Minnesota (ch. 282) the issuance of a check for the payment of labor without sufficient funds to meet the payment was declared a misdemeanor. The Oregon commissioner of the bureau of labor was empowered to collect unpaid wage claims. (Ch. 287.) The subject of wage payment was also considered in Porto Rico; two acts (Nos. 17 and 31) regulated labor contracts and provided that all wages must be paid in lawful money of the United States and at intervals not exceeding one week, while Act No. 61 forbids the exchange of a work certificate, check or scrip for anything other than lawful money. An employee who has a wage claim in Porto Rico may now receive redress either in the court of the district where the work was done or where he resides. (Act No. 14.) South Dakota (ch. 173) also provided, in the minimum wage law, that all wages must be paid in cash or by check. An employer is forbidden by the provisions of the Wisconsin act (ch. 457) to make deductions from the wages of an employee for defective workmanship, unless the employer and a representative of the employee determine that such defect was due to the negligence of the employee. The wage-payment law was also amended in Wisconsin (ch. 262), Maryland (ch. 35), and Rhode Island (ch. 1783), by providing that whenever a pay day falls on a holiday, payment on the next succeeding business day will be a compliance under the wage-payment law. The withholding of pay, etc., of any civil employee of the United States upon removal for cause was prohibited by an act of Congress (ch. 287, 46 U. S. Stat. at L. 1415, Public, No. 723); provision is made, however, that if the employee is indebted to the United States, any salary etc. must be applied to that indebtedness.

The legislature of Colorado (ch. 170) established a wage-claim court in each county of the State. The jurisdiction of the court is limited to claims of $100 or less. (See Labor Review, March, 1932, p. 585.)

The subject of the garnishment of wages was treated in Hawaii (Act No. 68) and in Illinois (pp. 615, 616, and 617), while the law requiring contractors to furnish bonds for the protection of the wages of employees was extensively treated in Hawaii (Act No. 163), Illinois (p. 385), Indiana (ch. 168), Iowa (ch. 208), Minnesota (ch. 229), Montana (ch. 20), Nevada (ch. 208), New Jersey (ch. 318), North Dakota (chs. 100 and 223), Oregon (ch. 280), Pennsylvania (Acts No. 130, sec. 617 (b); 144, sec. 2408 (h); 145, sec. 1202, clause 54; 146, sec. 564; 293; 294; 317, sec. 1905; 321; 331, sec. 1804; and 353, sec. 13), and Wyoming (ch. 73, secs. 74 and 75).

A prevailing-wage law was passed by Congress (ch. 411, 46 U. S. Stat. at L. 1494, Public, No. 798), providing that contractors on contracts in excess of $5,000, for the construction, etc., of public buildings of the United States, must pay the prevailing rate of wages for laborers, etc. Under the leadership of the Federal act several States adopted similar legislation, and in some instances the law was modeled after the provisions of the Federal law: Alaska (ch. 68), California (ch. 397), Illinois (p. 573), Montana (ch. 102), New Jersey (ch. 242), Ohio (H. B. No. 3, p. 116), Washington (ch. 1, p. 27), and

Wisconsin (chs. 269, 432, and 441). Several other States enacted legislation relative to the payment of the prevailing or minimum rate on contracts for construction of public works, namely, California (ch. 396), Kansas (ch. 214), New York (ch. 786, special session), Pennsylvania (Act No. 144, sec. 522), and Texas (ch. 46).

Mechanics' Liens

THE mechanics' lien law in several States was enlarged to cover additional liens on property for the value of labor expended. In New Mexico (ch. 11) the law was extended to cover gas and oil wells, etc., and also pipe lines. The mechanics' lien law in North Carolina was extended to the work of finishers, bleachers, etc. (ch. 48), and that of North Dakota (ch. 176) to machinists or garage keepers for repairs on automobiles, engines, threshing or well machines, while in Oregon the lien law was amended to cover the manufacture of slab wood (ch. 231) and manual services on fishing gear (ch. 94). Certain agricultural operations (work on combines, corn huskers, shredders, silage cutters, seed hullers) were added to the list of liens in South Dakota by an amendatory act. (Ch. 175.)

In addition to the extension of the mechanics' lien law, the following States also amended the procedural features of the law: Alaska (ch. 30), Arizona (ch. 87), California (chs. 819 and 830), Illinois (p. 667), Kansas (ch. 227), Maryland (ch. 142), Montana (ch. 112), New Jersey (ch. 283), North Dakota (ch. 177), Oregon (ch. 111), Porto Rico (Act No. 73), Utah (chs. 5 and 6), and Wisconsin (chs. 15, 140, and 270).

Small Loans

THREE States (Delaware, New Hampshire, and Oregon) legislated on the subject of small loans. Since there is a connection between this subject and wages, mention of such legislation would seem to be justified. Oregon, by chapter 385, repealed the former law governing small loans, and enacted a new law regulating the business of making loans in amounts of $300 or less, and also the regulation of assignments of wages. In New Hampshire (ch. 163) the small loans act was amended so as to provide for the termination of the licenses of loan agencies on April 1; a commission was also authorized to study the true net income of licensees, and the effect of the interest rate charged upon the welfare of the citizens of the State. The Delaware act was enlarged and strengthened by the provisions of chapter 246.

Cooperative Organizations

Credit unions.—The following States passed new laws governing the organization, operation and supervision of credit unions: Arkansas (Act No. 161), Colorado (ch. 80), Ohio (H. B. No. 139, p. 581), and West Virginia (ch. 14). In Maine (ch. 11, p. 337) a Federal employees' credit union was incorporated. Other States which acted upon the subject include California (ch. 965) New York (ch. 341), Tennessee (ch. 67), and Wisconsin (chs. 306 and 450).

Cooperative associations.—The following States passed legislation affecting cooperative societies: New York (chs. 286 and 350), North Carolina (ch. 447), North Dakota (chs. 108 and 109), South Dakota (chs. 103 and 104), and Wisconsin (chs. 18, 218, and 237).

Holidays and Days of Rest

THE following were declared holidays in the States designated: Armistice Day, November 11, in Indiana (ch. 88), Michigan (Act No. 12), Nevada (ch. 60), and Wisconsin (ch. 17); Columbus and Fraternal Day, October 12, in Alabama (Act No. 689); Jefferson Day, April 13, in Missouri (p. 260); January 6 (Act No. 3), and November 19 (anniversary of the discovery of the island), in Porto Rico (J. Res. No. 25, p. 940); Lee's Birthday, January 19, in Texas (ch. 8). Two States merely provided for the observance of a holiday on Monday when such day occurs on Sunday (Alaska, ch. 85; Delaware, ch. 233). In Utah (ch. 1) Arbor Day hereafter is to be designated by the governor, instead of being April 15 as heretofore. All civil employees of the United States and the District of Columbia are granted a Saturday half holiday (by ch. 396, 46 U. S. Stat. at L. 1482, Public, No. 783).

Labor Unions and Disputes

PENNSYLVANIA (Act No. 311) prescribed the procedure and conditions under which injunctions may be granted in labor disputes. By the provisions of Act No. 310, the Legislature of Pennsylvania defined the rights of persons accused of indirect criminal contempt arising out of any violation of an injunction; such persons must be admitted to bail and notified of accusation, and may demand a speedy and public trial. The law governing the use of trade-marks, labels, etc., of trade-unions was extended in Rhode Island (ch. 1747) to include any corporation, copartnership, or firm, while the filing fee for an application was increased from $1 to $10.

Pensions

Old-age pensions.—Five States—Delaware (ch. 85), Idaho (ch. 16), New Hampshire (ch. 165), New Jersey (ch. 219), and West Virginia (ch. 32)—established old-age pension systems.[8] The Colorado old-age pension law was made a mandatory act, and the age requirement was reduced from 70 to 65 years. (Ch. 131.) The administration of the Maryland act was placed under the county commissioners instead of the courts, except in Baltimore City where authority is vested in the supervisors of city charities. (Ch. 114.)

In Massachusetts (ch. 398) a temporary provision (operative for 1931 and 1932) provided for the financing of the old-age pension law by a levy of a tax of $1 upon all male inhabitants over 20 years of age. A constitutional amendment relating to the granting of old-age pensions was proposed in Missouri (p. 385), to be voted upon by the people at the State election in November, 1932. An inmate of an institution may now apply for an old-age pension in California (ch. 608) and in Wisconsin (ch. 239), but such aid will not begin until the applicant has left the institution. The Wisconsin law was also amended by chapter 109, providing for an alternative condition for receiving a pension, i. e., that the applicant "was born in the United States." Other States which amended their old-age pension law were Minnesota (chs. 8, 72, and 138) and Wyoming (ch. 35). Chapter

[8] For an analysis of these acts, see Monthly Labor Review, April, 1931, p. 86 (Delaware); June, 1931, pp. 82-86 (Idaho, New Jersey, and West Virginia); and September, 1931, p. 59 (New Hampshire).

138 of the Minnesota law provided for the administration of the act by the board of county commissioners instead of the district judges, while in Wyoming chapter 35 authorized the county to raise pension funds by the levy of a tax (not to exceed ½ mill) on the assessed valuation of property.

Mothers' pensions.—Legislation on the subject of mothers' pensions was passed in Illinois (p. 214), Iowa (ch. 73), Maryland (ch. 115), Massachusetts (ch. 415), Michigan (Act No. 30), Minnesota (ch. 326), Missouri (p. 284), New Hampshire (chs. 1 and 106), New Mexico (ch. 49), South Dakota (ch. 252), Texas (ch. 256), and Wisconsin (chs. 76 and 352).

Public employees.—California established a contributory retirement system for State employees (ch. 700) and also excluded county employees from participating in other pension systems (ch. 811). Colorado, by the provisions of chapter 157, created a retirement plan, optional for employees already employed but compulsory for all future employees. In Kansas (ch. 124) a provision was adopted to retire public employees in cities of 50,000 to 90,000 population. A retirement system for county employees, and employees of cities of the first, second or third class, and employees in villages of 7,000 population, was provided in Minnesota by chapter 307. The Minnesota act applicable to employees of certain cities (ch. 522, Acts of 1919) was amended so as to authorize the payment of pensions to a surviving spouse of a deceased employee (ch. 244). The retirement act of 1929 (ch. 191) now covers State employees serving in any capacity (ch. 351). Congress (by ch. 375, 46 U. S. Stat. at L. 1471, Public, No. 781) enacted a retirement law for employees of the Panama Canal and Panama Railroad Co.[9] Other States which amended or extended provisions of the retirement act were Hawaii (Acts No. 172 and 219), Illinois (pp. 306 and 856), Maine, (ch. 274), Massachusetts (ch. 378), New Jersey (ch. 369), and Pennsylvania (Acts No. 167 and 184). The New York State employees' retirement law was amended in various respects by chapters 130, 131, 193, 239, 299, 334, 389, 393, 400, 424, and 483, while the New York City employees' retirement system was amended by chapters 258, 260, 261, 546, 549, 564 and 760.

Miscellaneous.—By the provisions of Act No. 246 (p. 182) Georgia provided that $15 a week must be exempted from garnishment, in pensions paid to retired employees. A law was enacted in Arkansas (Act No. 158) which provided for the payment of pensions to indigent blind citizens of the State. Revenues to pay such pensions are to be derived from a tax imposed on all businesses operating billiard or pool tables. An act of New Mexico (ch. 78) permitted the establishment, by certain irrigation districts, of old-age pensions and civil service systems, etc.

Vocational Education and Rehabilitation

Vocational education.—The State board of vocational education was placed under the department of education in the newly reorganized State departments in Maine, by the provisions of chapter 216; the commissioner of labor is a member of such board. Porto Rico (Act No. 28) accepted the Federal vocational education act. Other States which acted on the subject of vocational education included New

[9] For an analysis of this act, see Labor Review, May, 1931, p. 29.

Jersey (ch. 274), New Mexico (ch. 54), and Pennsylvania (Acts No. 109 and 241).

Vocational rehabilitation.—In California (ch. 981) the State board of education must hereafter direct the vocational rehabilitation program through the director of education. By an Illinois act (p. 221) a division of vocational rehabilitation was established under the control of the State board for vocational education. New Hampshire (ch. 48) merely affirmed the acceptance of the Federal act, which was originally accepted by chapter 18, Acts of 1925. The Federal vocational rehabilitation act was accepted by the provisions of Act No. 27 in Porto Rico. The Congress of the United States (by ch. 404, 46 U. S. Stat. L. 1489, Public, No. 791) extended to Porto Rico the vocational education and rehabilitation acts.

Labor Departments, Etc.

In California the expiration terms of the present members of the industrial welfare commission were fixed (ch. 978), and the powers of the bureau of labor statistics were extended to include the collection of other claims of laborers in addition to wage assignments (ch. 824); while in the organization of the department of industrial relations, the division of housing and sanitation was replaced by the division of immigration and housing (ch. 597). The department of industrial relations was established in Georgia (by Act No. 298, sec. 106, p. 43), replacing the former department of commerce and labor. Hawaii (by Act No. 97) abolished the department of immigration, labor, and statistics and transferred its duties to the secretary of the Territory. A division of statistics and research was established in the Illinois Department of Labor (p. 880). A labor and industrial commission was created in New Mexico by chapter 9. In North Carolina (ch. 312) a new department of labor was created, and the designation of the chief administrative officer of the division of standards and inspection was changed from "chief inspector" to "director of division" (ch. 426). The former department of agriculture and labor in Porto Rico has been superseded by a newly created department of labor (Act No. 15), the organic act of Porto Rico having been amended by the Congress of the United States (ch. 218, 46 U. S. Stat. L. 1168, Public, No. 677) to authorize the establishment of an independent department of labor under the executive department. Other States which enacted laws affecting the departments of labor in some respect include Missouri (p. 260), Nevada (ch. 46), New York (ch. 335), Oregon (ch. 381), Rhode Island (ch. 1731), Vermont (Act No. 125), and Wisconsin (chs. 161 and 324). In addition to the enactment of laws affecting directly the State labor departments, three States established independent commissions or departments and legislated upon subjects relating more or less to labor. North Carolina (ch. 277) created a department of personnel. Oregon (ch. 394) abolished the old industrial welfare commission and the board of child labor inspectors and created a new State welfare commission, designating the commissioner of the bureau of labor as the secretary and executive officer of the commission. In Texas the legislature (ch. 80) created a State commission for the blind, which must maintain a bureau of information to assist blind persons in finding employment, etc. This subject was also legislated upon in Alabama by the provisions of Act No. 678.

Investigative Commissions

THE legislatures of several States provided for the investigation of various subjects directly or indirectly concerning labor. In Alaska two investigative committees were appointed; chapter 69 provided for an investigation of methods for the care of dependent children, while chapter 74 created a commission to investigate the cost of constructing a permanent home for Alaska pioneer men. The problem of unemployment will receive study in California (ch. 61), Maryland (J. Res. No. 19, p. 1428), Minnesota (ch. 5), and Tennessee (H. J. Res. No. 14, p. 431). In Illinois four investigative commissions were provided—to study, respectively, the State-use system of prison labor (H. J. Res. No. 34, p. 921), methods and conditions of mining (p. 156), old-age dependency (p. 152), and the feasibility of establishing a State institution to train citizens in the skilled trades (p. 45)—and the commission appointed in 1929 to study child-welfare legislation was continued by Senate Joint Resolution No. 24 (p. 916). Maine provided for a commission to study old-age pensions (ch. 117, p. 624), as did also the State of Oregon (ch. 151). In Massachusetts three resolutions were adopted, one (ch. 1, p. 755) extending the time for the report of the special commission to consider the State employees' retirement system, the second (ch. 58, Resolves, p. 779) authorizing the appointment of a commission to investigate the operation of the minimum wage law, and the third (ch. 64, Resolves, p. 781) providing for the creation of a commission to collect and publish information on methods of regularization and stabilization of business and employment.

The investigation of convict labor received the attention of five States—New Hampshire (ch. 156), Tennessee (H. J. Res. No. 22, p. 435), Vermont (Act No. 293), West Virginia (S. Con. Res. No. 6, p. 362), and Wisconsin (J. Res. No. 61, p. 944). In New Jersey the regulation of the small-loan business was made the subject for investigation (J. Res. No. 9, p. 1265), the commission appointed in 1930 to study the employment of migratory children was continued (J. Res. No. 4, p. 1260), and a migrant welfare commission was created (ch. 261) to investigate conditions among migrant laborers. A study of the State's natural resources and agricultural production trends promising industrial development was authorized in North Dakota by chapter 208. The Ohio Legislature appointed a commission to study the subject of unemployment insurance (S. J. Res. No. 32, p. 882), and also provided for an investigation of coal mining (H. B. No. 12, p. 8). Oklahoma sought to ascertain the causes of coal-mine disasters (H. C. Res. No. 6, p. 374), while in Tennessee the legislature authorized the appointment of a committee to investigate labor conditions in the mines, factories, and industries of the State (S. J. Res. No. 15, p. 504).

Miscellaneous

CONVICT labor was the subject of legislation in several States. The States of Illinois (p. 727), Maine (ch. 221), Michigan (Act No. 277), New Jersey (ch. 235), and Pennsylvania (Act No. 308) took advantage of the Federal convict labor act which divests convict-made goods of their interstate character after January 19, 1934, and enacted legislation to prohibit the importation and sale of such goods in the State. An extension of the use of convict labor was made in Alabama (Act No. 228), Colorado (chs. 133, 134), Georgia (extra session Act No. 6,

sec. 11, p. 123), Montana (ch. 196), Nebraska (ch. 22), Nevada (ch. 221), and North Carolina (ch. 302), while in North Dakota (Con. Res. p. 557) the use of convict labor outside of institutions was forbidden whenever such use would deprive a person of the right of free labor. In Wyoming (ch. 90) the selling of products from the penitentiary farm established by chapter 75 was prohibited; the farm was placed under the jurisdiction of the prison commission by chapter 78. The subject was also considered in California (ch. 270), Hawaii (Act No. 125), Illinois (p. 730), Minnesota (ch. 340), Ohio (S. B. No. 267, p. 191), and Pennsylvania (Act No. 99).

Three jurisdictions (Hawaii, New Mexico, and Wisconsin) amended the law granting a right of action for death due to injuries caused by wrongful act. In New Mexico (ch. 19) the amount of recovery in such cases was increased from $5,000 to $7,500, and in Wisconsin (ch. 263) from $10,000 to $12,500. In Hawaii (Act No. 16) the law merely affirmed the section forbidding the maintenance of an action by a dependent where a remedy was provided under the State workmen's compensation law. The requirement that public printing be done within the State was considered in Florida (ch. 14824) and Oregon (ch. 213). Hereafter all copies of applications for industrial police in New Jersey (ch. 89) must be filed in the office of the superintendent of the State police instead of the office of the secretary of state. In order for a railroad to abandon its shop or terminal the consent of the railroad or warehouse commission must be secured in Minnesota. (Ch. 64.)

The California act of 1921 (ch. 34) providing for the issuance of stock to employees by corporations under certain conditions was repealed by chapter 864.

Laws Governing Trade-Marks of Trade-Unions

PRESIDENT HOOVER, on February 18, 1932, signed Senate Bill No. 2173 (Public Act No. 35), authorizing associations of employees in the District of Columbia to adopt a device to designate the products of the labor of their members, to punish illegal use or imitation of such device, and for other purposes. This act therefore provides a "union label law" for the District of Columbia very similar to the laws passed by 44 States, which secure to labor organizations the right to register, use, and protect from counterfeit or unauthorized use the trade-marks or labels chosen by them to distinguish the products of union labor from other goods or manufactured articles.

The development of the use of union labels is divided by some writers into three periods. The first period was marked by the introduction of the use of a label in 1875 by the cigar makers in California. This was a result of the keen competition between the white cigar makers and the Chinese laborers, and it appears to have had considerable influence, for some time, in diverting trade from the Chinese to the white shops.[1] The second period covers the adoption of the label by other trade-unions (largely through the influence of the Knights of Labor) as a means of combating particular forms of competition to which the members of these unions were subject. The third stage was that in which widespread use of the labels began to

[1] The Trade-Union Label, by Ernest R. Spedden.

be made as a matter of general union policy. The movement spread rapidly and the use of labels became popular with unions whose products were of such a nature that labels could easily be attached. Some organizations, such as those of the granite cutters, stone masons, and glass-bottle blowers, found the use of labels difficult, but the majority of the unions found the label useful and soon adopted its use.

If the union label was to be an effective instrument, it was necessary that the union be able to prevent its use by other persons not members of the union. The cigar makers at first had little difficulty, but as the use of the label became more general, counterfeiting of it became less rare. The earlier cases, tried by the courts of original jurisdiction, were in favor of the union and injunctions were issued on the ground that since the object and effect of the label was to increase the value of the labor of the union members, who had a property right in their own labor, the union also had a property right in the label.[2] Other courts upheld the union in protecting the use of the label, on the ground that counterfeiting was "perpetrating a fraud which injures the complainant's business and occasions him a pecuniary loss."[3] The Kentucky Court of Appeals concluded the opinion in the case of Hetteman Bros. & Co. *v.* Powers (102 Ky. 133) by saying:

> We are of the opinion that the law may be justly invoked by organized labor to protect from piracy and intrusion the fruits of its skill and handiwork and that brain and muscle may be the subjects of trade law rules as well as tangible property.

On the other hand, in Minnesota a court held that the union label can not be protected as it does not indicate any individual manufacturer nor point distinctly to the origin or ownership of the article to which it is applied.[4] A similar conclusion was reached by the courts of Pennsylvania,[5] and in Massachusetts the court said in the case of Weener *v.* Brayton (25 N. E. 46) that as the label is not itself property the officers and members of a union could not have an injunction against its unauthorized use.

Thus, in some States injunctive relief was denied and in others, when allowed, was not sufficient to stop the counterfeiting. Therefore agitation was made for the enactment of legislation subjecting the counterfeiter to criminal prosecution. Laws allowing criminal punishment were passed immediately in several States and other States soon followed. At the present time, 44 of the States have enacted union-label laws.[6] A list of these States and the citation of the law are given below:

Alabama.—Code, 1923, sections 4903, 4904, 8990.
Arizona.—Revised Code, 1928, section 4821.
Arkansas.—Digest, 1921, sections 10313–10319.
California.—Political Code, 1906, sections 3200, 3201; Penal Code, 1906, sections 349 (as amended by acts of 1911, chapter 181; and acts of 1915, chapter 487), 350, 351.
Colorado.—Compiled Laws, 1921, sections 4019–4026.
Connecticut.—Revised General Statutes, 1930, sections 4748–4754.
Delaware.—Revised Code, 1915, sections 3476–3483.
Florida.—Compiled General Laws, 1927, sections 7084–7087, 7294–7296.
Georgia.—Code, 1911, sections 1989–1992.

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[2] Bloete *v.* Simon, 19th Abb. N. Cas. (N. Y.) 88; Cigar Makers' Union *v.* Link, circuit court of Baltimore, 1886.
[3] Carson *v.* Ury, 39 Fed. 777.
[4] Cigar Makers *v.* Conhaim, 41 N. W. 943.
[5] McVey *v.* Brendel, 22 Atl. 912.
[6] Mississippi, New Mexico, North Carolina, and North Dakota have no law on this subject.

Idaho.—Compiled Statutes, 1919, sections 2314–2320.
Illinois.—Revised Statutes, 1931, chapter 140, sections 1–7.
Indiana.—Annotated Statutes, 1914, sections 10453–10463.
Iowa.—Code, 1931, sections 9867–9875.
Kansas.—Revised Statutes, 1923, sections 81–105 to 81–110.
Kentucky.—Carroll's Statutes, 1930, sections 4749–4755.
Louisiana.—Acts of 1898, No. 49.
Maine.—Revised Statutes, 1930, chapter 54, sections 43–49.
Maryland.—Annotated Code, 1924, article 27, sections 53–58.
Massachusetts.—General Laws, 1921, chapter 110, sections 8–15.
Michigan.—Compiled Laws, 1929, sections 8970–8975.
Minnesota.—General Statutes, 1923, sections 10346–10350.
Missouri.—Revised Statutes, 1929, sections 14329–14337.
Montana.—Revised Codes, 1921, sections 11204–11209.
Nebraska.—Compiled Statutes, 1929, sections 48–208 to 48–211.
Nevada.—Compiled Laws, 1929, sections 7695–7697, 10378–10381.
New Hampshire.—Public Laws, 1926; chapter 170, sections 1–7.
New Jersey.—Compiled Statutes, 1910, pp. 1802, 5643–5648.
New York.—Consolidated Laws, 1930, chapter 32, sections 208–209.
Ohio.—General Code, 1910, sections 6219–6227, 13102, 13153, 13154 and 13155 (both as amended by acts of 1911, p. 420).
Oklahoma.—Compiled Statutes, 1921, sections 11008–11014.
Oregon.—Code, 1930, sections 14–396 to 14–399, 70–201 to 70–204.
Pennsylvania.—Statutes, 1920, sections 21236–21243.
Rhode Island.—General Laws, 1923, chapter 223 (as amended 1931, ch. 1747), sections 1–6.
South Carolina.—Code, 1922, section 141 (as amended 1930, No. 721).
South Dakota.—Compiled Laws, 1929, sections 10411–10415.
Tennessee.—Code, 1932, sections 6762–6770.
Texas.—Revised Criminal Statutes, 1925, articles 1061, 1062; Revised Civil Statutes, 1925, articles 850, 851.
Utah.—Compiled Laws, 1917, sections 6145–6148, 8472–8475.
Vermont.—General Laws, 1917, sections 5961–5965.
Virginia.—Code, 1919, sections 1455–1462, 1463 (as amended 1930, chapter 364).
Washington.—Codes and Statutes, 1910, sections 9492–9500.
West Virginia.—Code, 1931, chapter 47, article 2, sections 1–9.
Wisconsin.—Statutes, 1931, sections 132.01–132.03, 132.12, 343.651, 343.76.
Wyoming.—Compiled Statutes, 1920, sections 4356–4362.

Most of these laws contain similar provisions—i. e., that any union may register its label, after paying the registration fee; that any person counterfeiting such label is guilty of a misdemeanor and shall be subject to a fine varying from $100 to $500 or to imprisonment varying from three months to one year.

The constitutionality of legislation of this type has been repeatedly sustained.[7] In the case of Seabold *v.* Commissioners, in which the constitutionality of the Pennsylvania act was challenged on the ground of unjust discrimination, Mr. Justice Mitchell said:

> Legislation for a class distinguished from a general subject is not special but general, and classification is a legislative question, subject to judicial revision only so far as to see that it is founded on real distinction in the subjects classified and not on artificial and irrelevant ones used for the purpose of evading the constitutional prohibition. If the distinctions are genuine, the courts can not declare the classification void.

In Perkins *v.* Heert, where the same question was raised, the New York Court of Appeals said:

> The label authorized was by a general and not a local act. No particular association or union has been given the exclusive privilege of adopting a label, but every association or union of every kind of workingmen or women is given the right to adopt its own label, which may indicate its own workmanship. It

[7] Cohen *v.* People, 149 Ill. 486; 37 N. E. 60; State *v.* Bishop, 128 Mo. 373; 31 S. W. 9; Perkins *v.* Heert 158 N. Y. 306; 53 N. E. 18; Commonwealth *v.* Norton, 23 Penn. C. C. R. 386; Seabold *v.* Comrs., 187 Penn. 318; Tracey *v.* Banker, 170 Mass. 266.

consequently follows that whatever discrimination there may be is authorized, and, therefore, not unjust, and that the privilege granted under the general law is in accord with public policy.

The courts have also held that such laws are not a violation of the fourteenth amendment to the Constitution, as there is neither a deprivation of property without due process of law nor a denial of equal protection of the laws to all citizens.

The text of the law recently passed for the District of Columbia is as follows:

SECTION 1. A union or association of employees in the District of Columbia may adopt a device in the form of a label, brand, mark, name, or other character for the purpose of designating the products of the labor of the members thereof. A drawing of such device may be filed in the office of the clerk of the Supreme Court of the District of Columbia and the clerk shall register same in a book to be provided for such purpose and be entitled to collect $1 for each registration. A certified copy of the drawing so registered may be obtained from the clerk upon the payment of $1 for each certification. Such certificate shall not be assignable by the union or association to whom it is issued.

SEC. 2. No person shall in any way use or display the label, brand, mark, name, or other character adopted by any such union or association as provided in section 1 of this act without the consent or authority of such union or association; or counterfeit or imitate any such label, brand, mark, name, or other character, or knowingly sell, dispose of, keep, or have in his possession with intent to sell or dispose of any goods, wares, merchandise, or other products of labor, upon which any such counterfeit or imitation is attached, affixed, printed, stamped, or impressed, or knowingly sell, dispose of, keep, or have in his possession with intent to sell or dispose of any goods, wares, merchandise, or other products of labor contained in any box, case, can, or package, to which or on which any such counterfeit or imitation is attached, affixed, printed, painted, stamped, or impressed. If copies of such device have been filed, the union or association may maintain an action in the Supreme Court of the District of Columbia to enjoin the manufacture, use, display, or sale of counterfeit or colorable imitations of such device, or of goods bearing the same, or the unauthorized use or display of such device or of goods bearing the same, and the court may restrain such wrongful manufacture, use, display, or sale, and every unauthorized use or display by others of the genuine devices so registered and filed, if such use or display is not authorized by the owner thereof, and may award to the plaintiff such damages resulting from such wrongful manufacture, use, display, or sale as may be proved, together with the profits derived therefrom.

SEC. 3. A person violating any of the provisions of section 2 of this act shall be guilty of a misdemeanor punishable by a fine of not less than $100 nor more than $500, or by imprisonment for not less than three months nor more than one year, or by both such fine and imprisonment.

WORKMEN'S COMPENSATION

Recent Compensation Reports

Missouri

THE fourth annual report of Missouri Workmen's Compensation Commission, for the year 1930, presents statistics covering 93,117 accidents which occurred during the calendar year, and also previous cases which were open and on which statistics were not available when the first, second, and third reports were issued.

Most of the report is devoted to a tabulation of the number of accidents for each city and county, by industries, with total compensation and medical costs by cities or counties. Other tables show statistics of a general nature for all industries, both under and not under the act, compiled from first reports of accidents; statistics on tabulatable and compensable cases closed by November 16, 1931; and revised figures for compensation and medical cost of all accidents under the act for 1927, 1928, and 1929, by type of disability.

The tabulations for 1930 show that the present value of compensation for 90,713 injuries under the act, out of a total of 93,117 injuries, was $2,621,500, and the present value of medical aid was $1,245,732. In 58,894 of the injuries which did not cause disability beyond the day of injury, medical aid was received amounting to $341,380, an average of $5.80 per case, while in 7,156 of the injuries, which caused disability beyond the day of injury but for less than three days, the medical aid cost amounted to $54,736, an average of $7.65 per case.

The present value of compensation and medical aid for the 24,663 compensable injuries was $3,525,902, an average of $142.96 per case. The averages per case for the various degrees of disability were $3,981.22 for deaths (including burial expenses), $10,109 for permanent total disabilities, $550.42 for permanent partial disabilities, and $74.47 for temporary total disabilities.

In 2,404 injuries which did not come under the act but which are included in the 93,117 cases considered, medical aid was received amounting to $21,485, an average of $8.94 per case.

The average age of all injured workers (93,117) was 31.31 years, and the average weekly wage was $25.72, but considering only the 31,819 compensable cases, the average age was 32.26 years and, as 27.6 per cent of these injured workers earned more than $30 per week, the average weekly wage for the compensable group was $38.62.

In commenting on the operations of the compensation law during its five years of existence, the commission feels that it has proved an invaluable help not only to the employees but to the employers of labor as well, and states that its experience shows that in 90 per cent of the accident cases the injured employee is in possession of his first compensation payment within two weeks after the date of the accident.

Table 1 shows the distribution of injuries, compensation cost, and medical cost for the 93,117 accidents occurring in 1930, by extent of disability.

TABLE 1.—COMPENSATION AND MEDICAL COST IN MISSOURI FOR ACCIDENT CASES OF 1930, CLOSED BY NOVEMBER 16, 1931, BY EXTENT OF DISABILITY

Extent of disability	Number	Benefit value		
		Compensation [1]	Medical aid	Total
Noncompensable injuries (disability of over 1 but under 3 days)	7,156	----------	$54,736	$54,736
Compensable accidents resulting in—				
Death	178	$701,120	7,538	708,658
Permanent total disability	1	9,560	549	10,109
Dismemberment (not permanent total)	441	227,860	36,686	264,546
Loss of use (not permanent total)	1,139	556,820	131,568	688,388
Permanent partial disability (other than dismemberment or loss of use)	73	46,360	11,172	57,532
Disfigurement	299	48,300	15,661	63,961
Temporary disability	22,532	1,031,530	646,442	1,677,972
Total	31,819	2,621,550	904,352	3,525,902
Noncompensable injuries (disability of 1 day or less)	58,894	----------	341,380	341,380
Injuries not under act	2,404	----------	21,485	21,485
Grand total	93,117	2,621,550	1,267,217	3,888,767

[1] Includes burial expense, disfigurement, mutilation, and excess medical.

New Jersey

A SERIES of tables, prepared by the Bureau of Statistics and Records of the New Jersey Department of Labor and published in the September, 1931, issue of the Industrial Bulletin, the official publication of the department, contains detailed statistics of industrial injuries in the State for the calendar year 1930.

TABLE 2.—NUMBER AND COST OF COMPENSATED CASES IN NEW JERSEY, OCCURRING AND CLOSED DURING 1930, BY INDUSTRY

Industry	Fatal and permanent total disability		Permanent partial disability		Temporary disability		All cases	
	Number of cases	Total compensation	Number of cases	Total compensation	Number	Total compensation	Number	Total compensation
Agriculture	4	$17,612	83	$62,023	379	$23,958	466	$103,593
Clerical and professional service, care and custody of buildings and grounds	21	113,405	273	169,997	835	53,573	1,129	336,975
Construction (including shipbuilding)	85	544,914	2,111	1,709,395	3,634	289,969	5,830	2,544,278
Manufacturing	108	576,161	3,995	2,414,499	7,482	433,981	11,585	3,424,641
Mining, metallurgy, and quarrying	16	102,377	264	171,222	380	29,064	660	302,663
Trade	16	68,031	597	338,429	1,715	96,669	2,328	503,129
Transportation and public utilities	64	309,811	906	639,291	2,624	192,377	3,594	1,141,479
Miscellaneous	43	213,798	489	336,052	1,459	93,176	1,991	643,026
Total	357	1,946,109	8,718	5,840,908	18,508	1,212,767	27,583	8,999,784

The tables cover a total of 27,583 compensated industrial injuries, occurring and closed during the year, consisting of 357 fatal and permanent total disability cases, 8,718 permanent partial disability cases, and 18,508 temporary disability cases. Comparison with similar figures for the previous year [1] shows increases for 1930 over 1929 of 63 fatal and permanent total disability cases, and of 532

[1] See Labor Review for March, 1931.

permanent partial disability cases. A reduction of 1,281 in the temporary disability cases resulted in a decrease of 686 for the total number of accidents, but the increase in the fatal and permanent disability cases caused a raise of 390,461 in the number of days lost through disability, making the average disability loss per case 223 days in 1931, as against 204 days in 1929.

A summary of the number of cases and costs is shown in Table 2 by industry and in Table 3 by cause.

TABLE 3.—NUMBER AND COST OF COMPENSATED CASES IN NEW JERSEY, OCCURRING AND CLOSED DURING 1930, BY CAUSE

Cause	Number of cases				Total days' disability (weighted)	Total compensation	Cases involving medical aid	Total medical cost
	Fatal and permanent total disability	Permanent partial disability	Temporary disability	Total				
Machinery	43	1,862	1,507	3,412	1,027,096	$1,554,790	1,192	$94,043
Boilers and steam-pressure apparatus		6	11	17	4,665	8,674	2	69
Explosions, electr city, hot substances, and flames	60	255	1,003	1,318	540,694	680,429	454	48,368
Falls of persons	61	1,519	3,297	4,877	1,279,282	1,903,977	1,665	133,208
Falling objects not being handled by injured	22	676	1,046	1,744	452,060	739,048	592	39,593
Objects and tools being handled	26	2,702	6,746	9,474	1,064,926	1,788,224	3,226	171,857
Stepping on or striking against objects	5	314	1,517	1,836	169,733	263,481	603	27,574
Vehicles	90	796	1,678	2,564	997,399	1,260,678	953	95,930
Poisonous and corrosive substances and occupational diseases	14	151	540	705	202,911	278,203	241	29,909
Miscellaneous	36	437	1,163	1,636	422,169	522,280	495	27,558
Total	357	8,718	18,508	27,583	6,160,935	8,999,784	9,423	668,109

Pennsylvania

ACCORDING to compensation and accident statistics issued by the bureau of statistics of the Department of Labor and Industry of Pennsylvania, fewer workers were killed and injured in the industries of the State during 1931 than in any other year since the workmen's compensation act became operative in 1916.

A total of 1,485 fatal and 109,976 nonfatal injuries was reported to the bureau of workmen's compensation during 1931, as against 1,752 fatal and 142,917 nonfatal injuries reported during 1930, or decreases of 15.2 per cent and 23.1 per cent, respectively.

This extraordinary decrease is attributed principally to the widespread unemployment resulting from the business depression, but it is pointed out that accident prevention has also proved an important factor. The statement is supported by comparative decreases, from 1930 to 1931, in employment and injuries for important industrial groups: Construction and contracting, employment 28.9 per cent, injuries 36 per cent; manufacturing, employment 15.3 per cent, injuries 30 per cent; anthracite coal mining, employment 14.1 per cent, injuries 13.9 per cent; bituminous coal mining, employment 9.8 per cent, injuries 23.2 per cent; retail trade, employment 6.1 per cent, injuries 7.3 per cent; wholesale trade, employment 2.6 per cent, injuries 13.1 per cent.

Table 4 shows the number of fatal and nonfatal injuries reported during 1931, distributed according to industrial group classification, with per cent of change from 1930.

TABLE 4.—NUMBER OF FATAL AND NONFATAL INJURIES REPORTED IN PENNSYLVANIA, 1931, AS COMPARED WITH 1930, BY INDUSTRIAL GROUP

Industrial group	Number of accidents reported		Per cent of change, 1931, compared with 1930	
	Fatal	Nonfatal	Fatal	Nonfatal
Construction and contracting	163	13,108	−27.2	−36.0
Manufacturing	234	31,409	−30.7	−30.0
Coal mining:				
Anthracite	438	22,370	−7.0	−14.1
Bituminous	240	15,202	−28.3	−23.1
Quarrying and mining other than coal mining	26	1,274	+30.0	−30.3
Transportation and public utilities	144	4,734	+4.3	−34.3
Trade:				
Retail	47	7,169	−13.0	−7.2
Wholesale	17	1,217	+17.6	−15.4
State and municipal employment	104	5,510	+26.8	+12.2
Other industries	72	7,983	−5.2	−7.8
Total	1,485	109,976	−15.2	−23.0

A decline is also shown in both compensation liability and the number of agreements approved. The total amount of compensation awarded for the year was $14,176,349, as compared with $15,636,209 for 1930, a decrease of 9.3 per cent. Compensation awards were made in 1,640 fatal cases, amounting to $5,145,880, an average of $3,138 per case; in 3,462 permanent disability cases, amounting to $4,364,976, an average of $1,261 per case; and in 66,643 temporary disability cases, amounting to $4,665,493, an average of $70 per case. The length of disability for all temporary disability cases compensated during 1931 averaged 41.8 days, practically the same as in 1930 (41.9 days).

South Dakota

THE annual report of the South Dakota Industrial Commission for the year ending June 30, 1931, comments on the benefits of workmen's compensation insurance and accident prevention, and refers to recent changes in the law, enacted by the State legislature. These amendments enlarged the provision relative to joint agreements between employers and employees for additional benefits, incorporated the rules made by the industrial commissioner for companies writing group reciprocal policies in the State, and brought under the provisions of the act all operators of grain combines, corn shellers, corn huskers, corn shredders, silage cutters, and seed hullers.

The total number of injuries reported for the year was 5,888, or 4 per cent less than for the previous year. The majority of the injured workers were between 21 and 41 years of age, 2,068 in the group over 21 and under 31, and 1,323 in the group over 31 and under 41. A division by sex shows that 5,570 of the injured workers were males; 318 were females. The total number includes 16 fatalities. One-half of these occurred in one mine, one by electrocution in the power plant, and the other seven from blasting, falling timber or rock within the mine.

Compensation payments amounted to $69,366.69, while medical and hospital relief aggregated $30,359.59 for the year. As customary, many of the disagreements were adjusted without the formality of hearings, saving expense to the State as well as to the contending parties, but it was necessary to hold 29 hearings, at an average cost of $63.24, as against 18 hearings during the previous year with an aver-

age cost of $55.11. The cost of administration per claim filed was $1.11, bringing the total administrative cost to $6,554.04, as against $5,371.73 for the previous year. In addition $5,244.44 was paid as workmen's compensation to injured employees of the State.

The following table shows the number of injuries in each occupation, under the special classification used by the commissioner's office, and the average weekly wages of the injured workers.

TABLE 5.—NUMBER OF INJURIES REPORTED IN SOUTH DAKOTA AND AVERAGE WEEKLY WAGES, BY OCCUPATION, 1929–30

Occupation	Number of injuries	Average weekly wages	Occupation	Number of injuries	Average weekly wages
Bakers	36	$31.00	Miners	260	$24.00
Biscuit manufacturers	1	18.00	Miscellaneous	187	24.00
Blacksmiths	28	21.00	Nurses and doctors	8	36.00
Bricklayers	12	45.00	Nursery men	14	22.75
Bridge construction workers	32	34.40	Plumbers	33	36.00
Butchers	47	34.00	Painters	16	34.50
Clerks and bookkeepers	305	21.00	Policemen	18	26.88
Creamery workers	96	26.00	Produce plant workers	67	21.12
Carpenters	156	42.00	Printers	53	28.38
Construction workers	138	30.00	Pilots	2	42.00
Cooks and chefs	83	21.96	Packing plant workers	362	21.12
Dairy workers	16	30.00	Quarry workers	90	28.00
Dry cleaners	14	20.00	Road workers	163	30.60
Dishwashers	37	15.00	Railroad workers	39	25.00
Engineers	44	26.00	Salesmen	99	30.00
Electricians	122	35.00	Teamsters	44	24.00
Firemen	27	21.40	Teachers	16	27.24
Farmers	269	20.00	Threshers	191	30.00
Glaziers	16	30.00	Truck drivers	342	28.00
Gas and oil station workers	74	24.00	Tractor operators	20	30.00
Grain elevator workers	74	30.25	Tinners	19	28.56
Ice workers	81	24.00	Telephone workers	61	21.68
Implement house workers	49	26.04	Utah-Idaho sugar refineries	40	27.00
Janitors	57	22.50	Utilities	233	31.00
Lumber mill and yard workers	157	21.00	Volunteer firemen	9	24.00
Laundry workers	33	18.04	Well drillers	10	36.00
Laborers	790	20.00	Warehouse workers	74	23.50
Machinists	67	30.00	Welders	3	25.00
Mechanics	313	31.00	Waitresses	58	13.00

Virginia

REPORTS were received of 43,205 injuries to employees resulting from industrial accidents during 1929, and of 41,594 during 1930, according to the biennial report of the Industrial Commission of Virginia for the years 1929 and 1930. Compensation was awarded, amounting to $1,252,494 in 8,177 of the cases occurring in 1929, and to $1,257,753 in 8,183 of the cases occurring in 1930. The medical expense, not included in the compensation awards and involving over 45,000 additional cases, was approximately $750,000 each year.

Attention is called to the changes made in the compensation law in 1930 by the general assembly: Increases in compensation payments from 50 to 55 per cent of the weekly wages, in the maximum amount of weekly compensation from $12 to $14, in the maximum amount of compensation for death from $3,600 to $4,200, and in the maximum compensation for permanent total disability from $4,500 to $5,600. The waiting period, during which no compensation is paid, was reduced from 10 to 7 days, and the maximum period for furnishing medical attention was extended from 60 to 180 days. It is estimated that these changes will mean an increase of approximately 15 per cent in compensation payments to injured workers. This

was, however, partly offset by the reduction in the tax on compensation insurance premiums from 3½ per cent to 2½ per cent. This tax, which is levied to defray the cost of administering the workmen's compensation law, is included in the insurance-premium rate, and the saving to the employers through the reduction is estimated as $50,000 a year.

The commission considers accident prevention of vital importance, not only for humanitarian reasons but because it directly concerns compensation rates and also affects efficiency in the operation of industry, especially in the manufacturing enterprises where nearly 40 per cent of the injuries occur. The commission takes an active part in the safety movement by furnishing employers in the manufacturing and coal mining groups with reports showing the accident experience in the specific class to which the establishment belongs, for comparison with the experience of the individual plant. During 1930 such reports were sent to over 2,000 employers, quarterly to some and semiannually to others.

Tables in the report show a summary of injuries and awards for the two years, appeals from awards, compensation cases by industries, compensation cases by weekly wage, causes of lost-time injuries by industries, lost-time injury frequency rates in selected manufacturing industries, and a summary of insurance experience. The summary of injuries and awards is presented as Table 6.

TABLE 6.—INDUSTRIAL INJURIES OCCURRING DURING 1929 AND 1930 IN VIRGINIA WITH AWARDS IN COMPENSABLE CASES, BY EXTENT OF DISABILITY

Extent of disability	1929		1930	
	Number of cases	Compensation incurred [1]	Number of cases	Compensation incurred [1]
Fatal	[2] 184	$387,508	[3] 204	$391,929
Permanent total and permanent partial	1,127	481,895	1,018	446,215
Temporary total	6,821	272,129	6,880	272,455
Indeterminate	71	[4] 110,962	121	[4] 147,154
Total compensable cases	[2] 8,203	1,252,494	[3] 8,223	1,257,753
Noncompensable cases	35,002	0	33,371	0
Total, all cases	43,205		41,594	

[1] In addition to compensation, the medical expense was approximately $750,000 each year.
[2] Includes 23 claims disallowed and 3 in suspense.
[3] Includes 40 claims disallowed.
[4] Estimated cost.

COOPERATION

Progress of the Cooperative League in 1930

THE 1932 Yearbook of the Cooperative League of the U. S. A. gives detailed statistical data for 1930 for the societies affiliated to the league. The tables following were computed from these data.

Local societies are affiliated to the league through three district leagues, the status of which at the end of 1931 is shown in Table 1.

TABLE 1.—STATUS OF COOPERATIVE LEAGUE AND ITS AFFILIATES, AS OF DECEMBER 31, 1930

League	Number of affiliated societies	Number of shareholders				Total annual business
		Men	Women	Groups	Total	
Northern States' Cooperative League	93	[1] 40,837	5,561	322	46,720	$12,187,723
Central States Cooperative League	13	[1] 4,318	653	27	4,998	2,006,335
Eastern States Cooperative League	25	[1] 8,822	5,065	51	13,938	4,216,012
Societies at large or in unorganized territories	6	[1] 60,965	346	10	61,321	277,712
Cooperative League of the U. S. A.	137	[1] 114,942	11,625	410	126,977	18,687,782

[1] Includes, in some instances, women and groups also.

Table 2 shows the membership, funds, business, and net gain or loss, for 1930, of the various types of societies.

TABLE 2.—MEMBERSHIP AND BUSINESS OF MEMBERS OF LEAGUE, BY TYPES OF SOCIETIES, IN 1930

Type of society	Number of societies	Number of members	Share capital	Reserve fund	Amount of business	Net gain or loss on business done	
						Gain	Loss
Retail distributive:							
Store societies [1]	107	30,252	$1,146,523	$1,095,733	$10,478,811	$338,300	$18,322
Bakeries	[2] 4	1,707	22,051	67,740	896,104	17,888	-------
Creameries	1	4,360	901,400	165,141	3,149,142	107,900	-------
Gasoline and oil stations	2	[3] 15	7,100	----------	100,580	15,991	-------
Cafeterias	1	3,483	63,181	118,384	611,507	38,515	-------
Garage	1	33	11,200	[4] 443	40,181	288	-------
Total	116	39,850	2,151,455	1,446,555	15,276,325	518,882	18,322
Housing:							
Hotels	2	567	5,970	10,734	78,478	718	560
Apartments	3	572	1,229,846	32,037	532,077	13,018	639
Total	5	1,139	1,235,816	42,771	610,555	13,736	1,199
Wholesale:							
Cooperative Central Exchange	1	[3] 97	111,061	18,361	1,767,760	29,735	-------
Grange Cooperative Wholesale	1	[3] 10	30,040	[4] 1,571	119,855	1,892	-------
Eastern Cooperative Wholesale	1	[3] 10	1,800	[4] 1,493	314,536	464	-------
Midland Oil Association	1	[3] 21	10,663	8,277	598,751	14,803	-------
Total	4	[3] 138	153,564	23,574	2,800,902	46,894	-------
Insurance societies	5	79,740	----------	[5] 728,946	----------	25,160	-------
Credit and banking societies	7	6,110	267,241	[5] 66,284	----------	11,891	-------
Grand total	137	126,977	3,808,076	2,308,130	18,687,782	616,563	19,521

[1] Includes some societies which also handle gasoline and motor oils.
[2] Only 3 societies reported on the points given.
[3] Member societies.
[4] Deficit.
[5] Guaranty fund.

Analysis of the data shows that, of the 103 store societies reporting as to membership, 18 per cent had a membership of less than 100, while 88 per cent had fewer than 500 members. The largest group (41 per cent) had between 200 and 500 members. Five societies had 1,000 members or more. Of the 94 societies reporting as to amount of business done during the year, 34 per cent had sales of less than $50,000, 72 per cent less than $100,000, and 3 per cent more than $500,000. The largest group (38 per cent) was that with sales of from $50,000 to $100,000.

In 1930 the average membership of the retail affiliated societies was 359 as compared with 344 in 1928. The share capital per society declined from $24,574 to $19,921. Average business per society, however, rose from $145,197 to $146,888, or 1.2 per cent; considering the decrease of 4.7 per cent that took place, during the same period, in retail prices, there was a real increase in volume of goods sold of 5.5 per cent. The average net gain per society fell slightly from 1928 to 1930. Only 12 societies reported a net loss, as compared with 17 in 1928, but the aggregate amount was practically the same, making the average per society in 1930 considerably higher than in the former year.

As for the wholesale societies affiliated, these increased from 2 to 4 in number, but the small membership of the 2 new societies included brought down the average membership of the group considerably. Average share capital declined somewhat. Average business per society declined 14 per cent; the average of the 2 societies reporting for both years, however, rose from $813,838 to $943,808 (16 per cent), and this, if the 11.7 per cent fall in wholesale prices be considered, represents a real increase of 31.3 per cent.

The details are shown in Table 3.

TABLE 3.—STATUS OF COOPERATIVE SOCIETIES IN 1930 AS COMPARED WITH 1928

Type of society and item	1928 [1]			1930		
	Number of societies reporting	Amount	Average per society	Number of societies reporting	Amount	Average per society
Retail societies:						
Members	111	38,212	344	111	39,850	359
Share capital	109	$2,678,611	$24,574	108	$2,151,455	$19,921
Amount of business	108	$15,681,238	$145,197	104	$15,276,325	$146,888
Net gain	90	$527,114	$5,857	92	$518,882	$5,640
Net loss	17	$18,921	$1,113	12	$18,322	$1,527
Wholesale societies:						
Members	2	[2] 99	50	4	[2] 138	35
Share capital	2	$95,773	$47,887	4	$153,564	$38,391
Amount of business	2	$1,627,675	$813,838	4	$2,800,902	$700,226
Net gain	2	$24,862	$12,431	4	$46,894	$11,724

[1] Data compiled from 1930 yearbook of the league.
[2] Member societies.

Average Wages in Cooperative Employment

THE 1932 Yearbook of the Cooperative League of the U. S. A., just issued, gives data as to number of persons employed and total pay roll for the cooperative societies affiliated to the league. The following data have been compiled from that report.

Of the affiliated societies, 106 organizations in various lines of business reported as to both number of employees and amount paid in wages during 1930. These societies had in their employ a total of 1,428 persons (1,152 men and 276 women) and a total pay roll for the year of $2,526,896. The table following shows, for the various types of societies reporting in each State, the number of employees, the total pay roll, and the average annual and weekly wages.

EMPLOYMENT AND PAY ROLLS IN COOPERATIVE SOCIETIES AFFILIATED TO CO-OPERATIVE LEAGUE, 1930

State and type of society	Number of societies reporting	Number of employees			Total amount paid in wages during year	Average wage	
		Men	Women	Total		Per year	Per week
California: Stores	1	7	2	9	$15,123	$1,680	$32.31
Illinois: Stores	5	84	13	97	170,113	1,754	33.73
Massachusetts:							
Stores	4	70	13	83	114,775	1,383	26.60
Bakeries	1	11	2	13	40,220	3,094	59.50
Total	5	81	15	96	154,995	1,615	31.05
Michigan: Stores	19	111	39	150	189,911	1,266	24.35
Minnesota:							
Stores	43	154	45	199	259,424	1,304	25.08
Hotels	1	2	9	11	8,800	800	15.38
Gasoline and oil associations	3	11	2	13	19,866	1,528	29.38
Creameries	1	389	31	420	889,193	2,117	40.71
Total	48	556	87	643	1,177,283	1,831	35.21
New Jersey:							
Stores	1	3	1	4	6,228	1,557	29.94
Bakeries	1	32	3	35	92,202	2,634	50.65
Total	2	35	4	39	98,430	2,524	48.54
New York:							
Stores	2	52	15	67	131,849	1,968	37.85
Bakeries	1	60	2	62	159,001	2,565	49.33
Cafeterias	1	57	58	115	207,942	1,808	34.77
Wholesale societies	1	2	1	3	7,083	2,361	45.40
Housing associations	1	1	1	2	2,845	1,423	27.37
Total	6	172	77	249	508,720	2,043	39.29
Ohio: Stores	2	18	6	24	37,204	1,550	29.81
South Dakota: Stores	1	2	3	5	7,185	1,437	27.63
Washington: Wholesale societies	1	2	1	3	9,045	3,015	57.98
Wisconsin:							
Stores	14	36	7	43	58,905	1,370	26.35
Hotel	1	2	6	8	4,790	599	11.52
Wholesale societies	1	46	16	62	95,192	1,535	29.52
Total	16	84	29	113	158,887	1,406	27.04
Grand total	106	1,152	276	1,428	2,526,896	1,770	34.04

In order to gain some idea as to how the rates in cooperative employment compare with those in private employment, average weekly earnings were computed from the data furnished by the approximately 2,000 wholesale and 7,500 retail establishments reporting each week to the Bureau of Labor Statistics. The computation showed that whereas the average weekly earnings in 1930 in private retail establishments were $23.90, the average for the retail cooperative stores was $27.98. For the wholesale enterprises the average was

$31.25 for the private and $31.48 for the cooperative establishments. The difference was most marked in the case of the bakeries. In the 3 cooperative bakeries the average weekly wage in 1930 was $50.94, while in the 700 privately owned bakeries reporting to the Bureau of Labor Statistics it was $27.10.

Growth of Postal Credit Unions in 1931

THE progress made by the credit unions of United States postal employees during 1931 is shown in Bulletin No. 12, just issued by the director of service relations of the Post Office Department. According to data given in this report, during 1931 the number of these credit associations increased 12.2 per cent, their membership increased 20.9 per cent, and their assets rose 52.1 per cent. The total amount of the loans made during 1931 was $6,533,097.

The reports from the credit unions show guaranty funds of $172,500, besides undivided earnings of $239,797.

The rate of dividend for 1931 averaged 6.69 per cent.

The total operating cost was 1.18 per cent of the loans granted.

The table following shows the growth of the postal credit unions since 1923, when the first association was formed.

DEVELOPMENT OF POSTAL CREDIT UNIONS, 1923 TO 1931

Date	Number of societies	Number of members	Assets	Number of loans (cumulative)	Total amount loaned (cumulative)
Jan. 17, 1923	1	8	$19		
Dec. 31, 1923	7	(1)	(1)	(1)	(1)
Dec. 31, 1924	25	(1)	(1)	(1)	(1)
Oct. 1, 1925	44	7,320	257,943	6,522	$590,919
Oct. 1, 1926	63	11,429	563,189	16,830	1,599,465
Oct. 1, 1927	83	16,257	1,001,535	30,313	3,183,890
Dec. 31, 1928	190	25,397	1,770,952	57,055	6,329,736
Dec. 31, 1929	208	33,984	2,523,917	87,691	10,410,418
Dec. 31, 1930	245	40,574	3,338,219	125,385	15,234,889
Dec. 31, 1931	275	49,037	5,078,874	172,437	21,642,432

[1] Not reported.

WORKERS' EDUCATION AND TRAINING

Developments in Industrial Education, 1931

FORWARD steps in industrial education in this country in 1928–1930 are noted in the latest biennial survey of education by the office of education.[1] A summary of these changes is given below:

1. At the time the report of the survey was made there were almost twice as many occupations included in the unit-trade day-school programs as there were six years before. The range of occupations in the part-time and evening courses was probably even wider, as it was found frequently practical and desirable to provide training for persons already placed on certain types of jobs, while it would have been inadvisable to provide training on a preemployment basis.

2. Formerly trade training was given for certain highly skilled trades. According to the survey, vocational educators are beginning to recognize that it would be useful to make school training available for some kinds of work along semiskilled lines.

3. There was clearer recognition on the part of the schools that it is essential to provide training in specialized jobs in machine operation.

4. Greater attention than formerly was focused on the efficiency of trade and industrial education programs of the public schools.

5. More stress than in previous years was laid upon the procedure to be followed in developing a program for industrial education. There was also a more general and practical realization of the importance of having contact or advisory committees from industry. Such committees, representing employers and employees in specific industries or trades, cooperate with school officials in organizing and developing industrial programs.

6. Additional emphasis was given to adult and part-time classes. There were practical indications of a growing realization of the importance of providing adults with educational opportunities for further training on jobs already held or training for a change of occupation. More attention was also paid to evening-school work. Procedure pointed to an agreement with the assumption that expenditures for trade extension courses for individuals with jobs brings a more definite and direct return on the investment than expenditures for preemployment courses.

7. Enrollments in the general continuation type of classes showed comparatively slight, if any, increase. There was a decrease in enrollments in certain cities as a result of employment conditions. The opportunities for the employment of young people between 14 and 18 years were greatly restricted. The unemployment situation tended to decrease the number of children entering gainful occupations, which brought about a shift in enrollment from part-time to full-time courses. Furthermore, there was a general tendency to lengthen compulsory full-time school attendance.

[1] U. S. Department of the Interior. Office of Education. Bul., 1931, No. 20: Biennial survey of education in the United States. 1928–1930. Chapter IV, Industrial education, by Maris M. Proffitt. Washington, 1931. (Advance pages of vol. 1.)

8. More recognition was given to the advantage of part-time and evening courses which provide trade extension education for persons who already have jobs. The value of day-unit vocational industrial courses for preemployment training was already well established.

Approximately 11 per cent of the total enrollment in all federally aided industrial and trade classes, was found in federally aided day-unit courses. During the period 1928–1930 there was an increase of about 44 per cent in enrollments in federally aided evening industrial classes, about 11 per cent in part-time trade extension and trade preparatory classes, and about 24 per cent in day trade classes.

9. An analysis of the geographic distribution of trade courses disclosed a lack of adequate correlation between the type of trade training available in a given locality and the outstanding industries in that section. During the period under discussion, industrial education leaders emphasized anew the advisability of providing training to meet the requirements of local industries. Students who complete trade courses are reported as usually taken on by local industries, even though the training of these workers was not such as would most effectively fill the needs of their employers.

10. There was such a demand for training courses for men in charge of industrial production work that it became necessary in many places to add to the personnel engaged in this kind of industrial service. Two kinds of courses were found to be generally available—one a trade extension course for foremen, having for its objective the improvement of foremanship through group conferences carried on by trained leaders, the other, a teacher-training course to prepare men with industrial experience to become leaders of foreman conferences.

11. In certain localities administrators and supervisors of industrial programs were confronted with the need of providing new kinds of courses to meet new industrial conditions. In some cases the schools found that they had "frozen equipment" on their hands, which had been used for training in obsolete lines of work or out-of-date manufacturing processes, and which it was necessary to replace with other equipment suitable for new kinds of work.

12. Problems involved in the selection and training of teachers were reviewed and fundamental assumptions restated. Among the points stressed were: The need of a sufficient amount of training as a prerequisite for teaching, the desirability of providing ways and means for the upgrading of teachers in the industrial field, and the importance of more careful selection and appraisal of subjects to be included in a program for industrial teacher training.

13. There was an increasing realization of the need of organizing, according to general education objectives, the work and practice in industrial arts in the grades of the junior high school. The general shop is proving highly efficient for this kind of instruction. For four or five years preceding the close of the biennium 1928–1930 the number of general shops in the public schools had grown rapidly. Certain schools had special classes in shopwork of a more specific and more practical nature for students who were over age and more mature.

14. The public schools showed a growing tendency to take responsibility for guidance and to consider it one of the objectives of educational training.

Both State and city school systems have devoted considerable attention to the development of materials bearing upon guidance, to the organization of programs, and to the procedure for carrying the programs into effect. Vocational guidance

still occupies the prominent place in the thinking of most people and receives the major emphasis in most guidance programs. This is due to the fact that it touches most immediately the end result of guidance, namely, placement in an occupational career. However, a complete guidance program will embrace more than vocational guidance and placement. It will be based upon a conception of guidance as broad as education itself, and include as objectives guidance for health, social adjustment, and personal habits.

15. The development of occupational information courses aroused more interest. The number of schools giving these courses increased and the content of such courses and the instruction methods were changed in order to make them more valuable.

Annual Meeting of National Vocational Guidance Association

VOCATIONAL guidance in a changing world was the general theme of the program of the annual conference of the National Vocational Guidance Association, held in Washington, D. C., February 18 to 21, 1932. The major topics were: Education, whither bound?; Living in a machine age; Our changing civilization; Who should go to college?; and Organized labor's attitude toward vocational guidance. Among the measures advocated in addresses were the following: The delay of specialization until a student is 17 years of age; the continuance of cultural training in the schools, because such training is necessary for participating intelligently in home, community, political, and social activities; the extension of high-school records; more versatility and adaptability in education; the teaching of economics to the public-school children at as early an age as possible; 2-year university courses for quasi-professional workers; the preparation of workers for the advantageous use of leisure; the institutional rehabilitation of the "victims of progress" who are jobless as a result of changes in production methods; provision for the rapid retraining of workers; better knowledge of industrial conditions and more sympathy for organized labor on the part of some of those engaged in vocational guidance; a more serious consideration of the problem of adult vocational guidance; the setting up of standards for the evaluation of literature on occupational information and the inclusion of such information in all parts of the curriculum; the cultivation of respect for all socially useful work; the awakening in each pupil of a realization of the part he has to play, based on a concept of service; the organization of the process of "the conscious evolution"—education; the shorter week; and recourse to social planning and industrial coordination.

At one of the sessions brief reports were given on vocational guidance in Russia and Japan. At the sectional meeting on the placement of the handicapped, reports were made on vocational opportunities for infantile paralysis cases, the vocational problems of the hard of hearing, sheltered workshops in New York City, and the rehabilitation of the blind in normal industry.

LABOR ORGANIZATIONS

Growth of Labor Organizations Among Nonmanual Workers in Great Britain

CONSIDERABLE headway has been made, since the World War, in the organization of nonmanual workers in Great Britain, according to an article in the 1932 People's Yearbook.[1]

Up to the time of the war comparatively few of the salaried workers had joined a labor organization. But this class of workers returned from war duty to find that, while the manual workers' organizations had been successful in securing for their members wage adjustments that in most cases more than compensated for the rise in the cost of living, the nonmanual employees' scale had remained almost unchanged. Also, they faced a serious and growing uncertainty as to permanence in their employment. The contrast of their own situation with that of the wage earners led, during the years immediately following the cessation of the war, to the formation of many new unions among the "white-collar" workers, and to the expansion of those already in operation.

Much of the early postwar effort was directed toward securing recognition of the unions by the employers.

Among the unions formed in a field to which labor organizations had formerly been entirely foreign was the Irish Bank Officials' Association, established in 1918. This association "so quickly and so effectively captured the imagination and the loyalty of Irish bank clerks that they were soon able to threaten their employers with strike action, and succeeded in consequence in securing both the intangible but priceless boon of 'recognition,' and a very tangible boon, in the pocket, of a salary scale that is still the envy of their colleagues on this side of the water."

Their example was followed by the bank clerks in England and Scotland, and although the banks countered with the formation of "company unions," the Bank Officers' Guild, as the organization of bank employees in England and Wales is known, has attained a membership of some 20,000.

Other new unions were formed among the employees of insurance companies, the engineering and shipbuilding draftsmen, the employees of the National Government and of the various local governments, the journalists, etc.

Valuable organization service was rendered by the Cooperative Wholesale Society in 1919 when it adopted the policy of requiring that all its employees should be members of the labor organization for their trade, and that the union scale should be paid to all employees of the society. This move, the author states, "had much to do with bringing unions like the National Union of Distributive and Allied Workers, and the National Amalgamated Union of Shop Assistants,

[1] English and Scottish Cooperative Wholesale Societies. Fifteenth annual: People's Year Book, 1932. Manchester, 1 Balloon St., 1932, pp. 261–266.

Warehousemen and Clerks to their present powerful position." The society was also largely instrumental in the formation of the National Union of Cooperative Officials.

The Railway Clerks' Association, which had been in existence since 1897, in 1910 numbered in its membership less than 10,000. By 1921, in spite of large reductions in railway employment after the war, the membership had risen to more than 60,000, at which figure it still remains, "notwithstanding the further large and continuous contraction in the gross totals of railway staffs." Its industrial power is indicated by the fact that it has won "recognition" by the carriers and a national agreement covering salaries and conditions of service. It is represented on the national railway wage board and on the general council of the British Trades Union Congress, and numbers among its members eight members of Parliament.

The National Teachers' Union has shown similar growth. In 1910 this union had a membership of 69,000. Since 1910 it has practically doubled its membership and has attained a "unique status * * * in negotiations, national and local, over teachers' salaries and conditions of service." Its membership, also, includes eight members of the House of Commons.

The author estimates that, altogether, from 20 to 25 per cent of the whole number of nonmanual workers in Great Britain are now members of labor organizations. The approximate membership of some of the individual unions is given, as follows:

Guild of Insurance Officials	13,000
Association of Engineering and Shipbuilding Draftsmen	[2] 12,000
Civil Service Confederation	70,000
National Association of Local Government Officers	60,000
National Union of Journalists	5,000
Prudential Staff Association	7,000

Among the tasks included in the program of the nonmanual workers' organizations are the securing of adequate protective legislation relating to working hours and labor conditions; liberalization of the social insurance and workmen's compensation acts in so far as they relate to salaried employees; and dismissal compensation for loss of employment due to amalgamations of companies, rationalization measures, etc.

[2] Representing about 80 per cent of the possible membership.

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in February, 1932

DATA regarding industrial disputes in the United States for February, 1932, with comparable data for preceding months, are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

Table 1 shows the number of disputes beginning in 1927, 1928, 1929, 1930, and 1931, the number of workers involved and man-days lost for these years and for each of the months, January, 1930, to February, 1932, inclusive, as well as the number of disputes in effect at the end of each month and the number of workers involved. The number of man-days lost, as given in the last column of the table, refers to the estimated number of working-days lost by workers involved in disputes which were in progress during the month or year specified.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1930, TO FEBRUARY, 1932, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS, 1927 TO 1931

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost in disputes existing in month or year
	Beginning in month or year	In effect at end of month	Beginning in month or year	In effect at end of month	
1927: Total	734		349,434		37,799,394
1928: Total	629		357,145		31,556,947
1929: Total	903		230,463		9,975,213
1930: Total	653		158,114		2,730,368
1931: Total [1]	828		275,203		6,400,686
1930					
January	45	21	9,240	5,316	184,730
February	52	40	37,480	6,683	438,570
March	49	38	15,017	5,957	291,127
April	64	41	6,379	5,840	189,828
May	66	29	9,329	4,386	185,448
June	59	34	14,011	8,311	144,117
July	78	30	14,308	4,815	141,647
August	51	33	15,902	7,131	142,738
September	72	44	16,337	13,778	208,184
October	47	36	10,858	16,007	335,916
November	44	29	4,390	7,759	273,608
December	26	7	4,863	5,144	194,455
1931					
January	56	20	10,147	2,927	181,031
February	52	34	19,984	12,512	228,329
March	45	27	26,121	28,139	422,545
April	60	39	26,442	22,604	769,720
May	106	49	27,588	15,735	402,437
June	81	51	18,437	17,071	506,097
July	67	54	49,574	58,995	666,309
August	76	43	10,977	17,003	1,213,120
September	110	59	35,859	37,164	491,024
October	70	41	33,548	28,696	1,038,063
November	56	31	12,611	12,910	339,730
December	49	25	3,915	1,250	142,281
1932					
January [1]	80	49	12,423	6,507	132,106
February [1]	42	52	43,076	43,912	584,804

[1] Preliminary figures subject to change.

Occurrence of Industrial Disputes, by Industries

TABLE 2 shows the number of workers directly involved in the strikes beginning in December, 1931, and January and February, 1932.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN DECEMBER, 1931, AND JANUARY AND FEBRUARY, 1932

Industrial group	Number of disputes beginning in—			Number of workers involved in disputes beginning in—		
	December	January	February	December	January	February
Bakers	1	2		15	17	
Barbers	3	1	1	626	700	1,000
Brewery and soft-drink workers			1			17
Building trades	13	19	9	431	842	1,567
Chauffeurs and teamsters	6	7		259	4,560	
Clothing	10	21	12	332	1,260	30,137
Food workers	1			800		
Furniture	1	3	1	8	42	200
Glass workers			1			75
Hotel and restaurant workers			1			38
Jewelry workers		1			20	
Laundry workers			1			17
Leather	1	1		48	50	
Longshoremen		1	1		200	150
Lumber, timber, and millwork	1			500		
Metal trades	1	1	2	70	80	110
Miners	5	9	5	636	2,904	8,580
Motion-picture operators, actors, and theatrical workers			1			6
Printing and publishing	2	1	1	23	45	40
Stone	1		1	40		500
Municipal workers	1	1	1	7	200	66
Telegraph and telephone workers	1			30		
Textiles	1	9	2	90	1,339	551
Other occupations		3	1		164	22
Total	49	80	42	3,915	12,423	43,076

Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in February, 1932, classified by number of workers and by industries.

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN FEBRUARY, 1932, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIAL GROUPS

Industrial group	Number of disputes beginning in February, 1932, involving—						
	6 and under 20 workers	20 and under 100 workers	100 and under 500 workers	500 and under 1,000 workers	1,000 and under 5,000 workers	5,000 and under 10,000 workers	Over 10,000 workers
Barbers					1		
Brewery and soft-drink workers	1						
Building trades	2	3	3	1			
Clothing	1	5	2	1	2		1
Furniture			1				
Glass workers		1					
Hotel and restaurant workers		1					
Laundry workers	1						
Longshoremen			1				
Metal trades		2					
Miners		1	2	1		1	
Motion-picture operators, actors, and theatrical workers	1						
Printing and publishing		1					
Stone				1			
Municipal workers		1					
Textiles		1		1			
Other occupations		1					
Total	6	17	9	5	3	1	1

In Table 4 are shown the number of industrial disputes ending in February, 1932, by industries and classified duration.

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN FEBRUARY, 1932, BY INDUSTRIAL GROUPS AND CLASSIFIED DURATION

Industrial group	Classified duration of strikes ending in February, 1932			
	One-half month or less	Over one-half and less than 1 month	1 month and less than 2 months	3 months and less than 4 months
Brewery and soft-drink workers	1			
Building trades	4	1	2	1
Chauffeurs and teamsters		1		
Clothing	5	4		
Furniture		1	2	
Glass workers	1			
Jewelry workers	1			
Laundry workers	1			
Longshoremen and freight handlers	2			
Metal trades		1		
Miners	2		3	
Motion-picture operators, actors, and theatrical workers	1			
Municipal workers	1			
Textiles	2	1		
Other occupations		1		
Total	21	10	7	1

Conciliation Work of the Department of Labor in February, 1932

By Hugh L. Kerwin, Director of Conciliation

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 44 labor disputes during February, 1932. These disputes affected a known total of 46,309 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On March 1, 1932, there were 43 strikes before the department for settlement and, in addition, 37 controversies which had not reached the strike stage. The total number of cases pending was 80.

LABOR DISPUTES HANDLED BY THE CONCILIATION SERVICE DURING THE MONTH OF FEBRUARY, 1932

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workmen involved	
					Beginning	Ending	Directly	Indirectly
					1931	1932		
Carpenters, Pittsburgh, Pa	Controversy	Carpenters	Wage cut	Adjusted—accepted $2 per day cut	Dec. 15	Feb. 4	4,200	------
Soldiers' Home, Milwaukee, Wis.	------do------	Laborers	Prevailing wage	Adjusted—agreed to pay prevailing wage.	Nov. 1	Jan. 27	25	------
Gulf Building, Pittsburgh, Pa	------do------	------do------	Proposed wage cut	Adjusted—present scale to continue; proposal withdrawn.	Dec. 15	Feb. 4	50	------
Shell Eastern Petroleum Corporation, New York City.	------do------	Painters	Nonunion men employed for maintenance work and construction.	Adjusted—satisfactory settlement	Oct. 5	Feb. 5	2,000	------
					1932			
Air Line Cord Corporation, Chicago, Ill.	Threatened strike.	Pilots	Wages cut from $400 per month to $3 per hour for day flying; $5 per hour for night.	Pending	Feb. 1	----------	53	------
Van Owners' Association, New York City.	Lockout	Teamsters and chauffeurs.	Wages cut 10 per cent	------do------	Jan. 1	----------	1,400	------
Post office, Erie, Pa	Controversy	Building	Asked that local men be employed	Adjusted—local men employed	Jan. 30	Feb. 2	29	60
Standard Oil Building, East St. Louis, Ill.	------do------	Truck drivers and others.	Asked that union men be employed on trucks.	Adjusted—union men employed for part of company's work.	Jan. 26	Feb. 8	20	------
Durable Tool & Die Co., New York City.	Lockout	Tool and die makers	Piecework rates changed; discharged.	Adjusted—strike called off; part will be reemployed when conditions warrant.	Feb. 1	Mar. 10	70	------
Post office, South Bend, Ind	Controversy	Plumbers and steam fitters.	Prevailing wage	Pending	Jan. 1	----------	12	75
Post office, Cedar Rapids, Iowa	------do------	Laborers	Asked continuation of closed shop	------do------	Jan. 12	----------	20	------
Dressmakers, New York City	Strike	Dressmakers	Change in piecework	Adjusted—slight increase in piecework prices; returned to work.	Feb. 1	Feb. 3	22	------
Lathers, Pittsburgh, Pa	------do------	Lathers	Proposed 25 per cent wage cut	Adjusted—no cut; returned to work	Feb. 2	Feb. 4	200	------
Plasterers, Pittsburgh, Pa	------do------	Plasterers	Proposed wage cut	Adjusted	------do------	------do------	500	------
Erie Steel Construction Co., Erie, Pa.	Controversy	Ironworkers	All union men discharged	Adjusted—job completed nonunion	Feb. 1	Feb. 10	19	------
Post office, Hobart, Okla	------do------	Masons	Prevailing wage alleged to be $1.25 per hour; paying 75 cents.	Pending	Jan. 27	----------	(1)	------
Philadelphia Mill Owners' Association.	------do------	Cabinetmakers	Asked cut from 90 to 70 cents per hour.	Adjusted—referred to immediate arbitration.	Jan. 10	Feb. 12	1,200	------
Veterans' Hospital, Oteen, N. C.	------do------	Plumbers and steam fitters.	Alleged local labor not employed	Adjusted—investigation showed local men were largely employed.	Jan. 2	Jan. 30	150	------
Duncan Field, San Antonio, Tex.	------do------	Building crafts	Prevailing wage	Adjusted—after investigation prevailing rates were established.	Jan. 1	Feb. 3	35	------

[1] Not reported.

LABOR DISPUTES HANDLED BY THE CONCILIATION SERVICE DURING THE MONTH OF FEBRUARY, 1932—Continued

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workmen involved	
					Beginning	Ending	Directly	Indirectly
					1932	1932		
Building, Philadelphia, Pa.	Strike	Carpenters	Wages cut from $1.25 to $1 per hour.	Adjusted—agreed on arbitration and returned to work.	Feb. 5	Feb. 9	81	
Marble and tile workers, Philadelphia, Pa.	do	Marble and tile workers.	Wage cut	Adjusted—continued $12 per day until June 1, 1932, then $11.	Jan. 4	Feb. 8	300	
Junior Coal Co., Shamokin, Pa.	do	Miners	Failure to pay wages	Pending	Feb. 8		95	
Shell Petroleum Corporation, St. Louis, Mo.	Controversy	Building	Asked union labor at union scale	do	Jan. 15		200	8,200
Shell Oil Co., California	do	Boiler makers	Working conditions	do	Jan. 1		5,000	
Air hangar, Fort Leavenworth, Kans.	do	Ironworkers	Prevailing rate $1.37½; paying $1 per hour.	Adjusted—agreed to pay prevailing rate.	Jan. 7	Feb. 8	6	
Building, Philadelphia, Pa.	do	Building	Proposed cut from $1.25 to $1 per hour.	Pending	Jan. 1		5,000	
Sunday Creek Coal Co. and others, New Philadelphia, Ohio.	Strike	Miners	Wage cut	do	Feb. 1		80	460
Courthouse Annex, Elizabeth, N. J.	do	Laborers	Wages cut $2 per day	Adjusted—subcontractors agreed to pay $10 per day.	Feb. 8	Feb. 10	20	70
Cleveland Storage & Carting Co., Cleveland, Ohio.	do	Truck drivers	Wage cut following expiration of agreement.	Adjusted—cut withdrawn; drivers, 67½ cents per hour; machinery movers, 81 cents; and long-distance drivers, $45 for 60-hour week.	Feb. 11	Feb. 15	40	50
Electricians and laborers, South Bend, Ind.	Controversy	Building	Prevailing wage	Adjusted—electricians $1 and laborers 50 cents per hour.	Feb. 8	Feb. 12	6	12
John Van Range Co., Cincinnati, Ohio.	Threatened strike.	Metal polishers	Wages cut 20 per cent	Unable to adjust. Company sold its business.	Jan. 25	Feb. 17	6	24
Building, New London, Conn.	Strike	Carpenters	Wage cut	Adjusted—agreed on temporary cut of $1 per day; prevailing rate fixed at $1.15 per hour.	Feb. 15	Feb. 18	253	800
W. & J. Sloane Co., New York City	do	Teamsters	Working conditions	Pending	Jan. 18		23	
Schoolhouse, Darien, Conn.	do	Laborers	Wages	Unclassified. Agreed to pay prevailing rate and employ union men before arrival of commissioner.	Feb. 1	Feb. 5	12	135
Coast Guard Academy Building, New London, Conn.	Controversy	do	Prevailing rate alleged to be 50 cents per hour; paying 40 cents.	Pending	Feb. 15		(1)	
Post office, Allentown, Pa.	do	Carpenters	Asked that union men be employed.	Adjusted—union men employed at prevailing wage.	Feb. 17	Feb. 28	45	
		Asbestos workers	Prevailing wage	Pending	Feb. 24		2	50

Post office, Muncie, Ind	Controversy	Asbestos workers	Prevailing wage	Pending	Feb. 24		2	50
Post office, Noblesville, Ind	do	Ironworkers	do	do	do		2	30
Post office, Mount Vernon, Ind	do	Electrical workers	do	do	Feb. 23		12	50
Ladies' garment makers, Greater New York, N. Y.	Strike	Garment workers	Wages, working conditions, unionization.	Adjusted—agreed on piecework prices and union shop conditions.	Feb. 16	Mar. 8	15,000	
Base Hospital, Menlo Park, Calif.	Controversy	Building	Prevailing wage	Pending	Feb. 11		30	
Naval Base, San Diego, Calif	do	do	do	do	Feb. 24		(1)	
Plumbers, Lockport, N. Y	Strike	Plumbers	Wages cut $2 per day to $7.50	do	Feb. 25		20	35
M. G. Kantor Co., Inc., New York City.	Controversy	Millinery workers	Unionization of shop	do	Jan. 27		20	
Total							36,258	10,051

[1] Not reported.

Strikes and Lockouts in Canada, 1931

IN 1931 there were 88 strikes and lockouts in Canada—21 more than in the preceding year but about the average number per annum since 1922, the close of the war and postwar period in which there were so many industrial controversies.[1] The number of workers involved in the strikes and lockouts in 1931 was 10,738, which was considerably less than in the previous year and lower than in any year since 1914, which holds the record for the smallest number of workers involved in such conflicts since 1901. Most of the disputes in 1931 involved few workers and were soon over. On the other hand, as a result of five disputes which involved comparatively large numbers of workers for quite a period of time there was a substantially heavier loss in man-days than in 1930. One dispute, the largest in 1931, involved 1,500 workers in women's clothing factories in Toronto and resulted in a loss of 47,000 working-days.

Of the total disputes in 1931, 48.8 per cent occurred in manufacturing, 10.2 per cent in mining, 14.8 per cent in construction, and 16 per cent in service. Twenty-eight of the disputes were against a reduction in wages, 12 were for higher wages, and 19 were for the maintenance of union wages and working conditions. There were also 6 disputes over the discharge of workers for causes other than those relating to union activity and 5 sympathetic strikes.

The following is a record of the strikes and lockouts in Canada from 1913 to 1931.

STRIKES AND LOCKOUTS IN CANADA, 1913 TO 1931

Year	Number of disputes		Disputes in existence in the year		
	In existence in the year	Beginning in the year	Employers involved	Workers involved	Time loss in working-days
1913	152	143	1,077	40,519	1,036,354
1914	63	58	261	9,717	490,850
1915	63	62	120	11,395	95,042
1916	120	118	332	26,538	236,814
1917	160	158	758	50,255	1,123,515
1918	230	228	782	79,743	647,942
1919	336	332	1,967	148,915	3,400,942
1920	322	310	1,374	60,327	799,524
1921	168	159	1,208	28,257	1,048,914
1922	104	89	732	43,775	1,528,661
1923	86	77	450	34,261	671,750
1924	70	64	435	34,310	1,295,054
1925	87	86	497	28,949	1,193,281
1926	77	75	512	23,834	266,601
1927	74	72	480	22,299	152,570
1928	98	96	548	17,581	224,212
1929	90	88	263	12,946	152,080
1930	67	67	338	13,768	91,797
1931	88	86	266	10,738	204,238

[1] Labor Gazette, Ottawa, February, 1932, pp. 130 and 136.

COLONIZATION

Encouragement of Colonization Within Canada

CANADA'S policy of encouraging colonization within its own boundaries, instituted in September, 1930, by the Dominion Minister of Immigration, has been carried out through the coordinated efforts of the Department of Immigration and Colonization and the railroad companies. The result of such efforts has been to return to the land about 42,882 persons, according to a report in the Canadian Labor Gazette of January, 1932. From October 1, 1930, to November 30, 1931, a total of 6,040 families and 12,682 single men had been placed on farms—the families as settlers and the single men as farm laborers. This was accomplished without direct financial assistance to these colonists, the department and the railroads finding the opportunities, presenting them to persons who were in a position to avail themselves of such opportunities, and facilitating the removal of the prospective colonists to their new abodes. The purpose of these combined efforts is to encourage families and individuals, who have no jobs or are in fear of losing their jobs and who have agricultural experience, to go back to the land before their financial resources become exhausted. The department and the railroad companies give advice and direction regarding desirable locations and the methods to be used by the colonists to reduce the possibility of failure. These agencies are continuing their activities along these lines, as they are convinced that individuals, and particularly family groups, satisfied with placement on the land and self-supporting are not likely to swell the ranks of the jobless.

The Minister of Immigration declares: "It is gratifying that this policy of colonization has met with a tangible measure of success without resort to financial advances by the Government."

During the period from October 1, 1930, to November 30, 1931, the department alone placed 948 families on the land and 5,502 single men in farm employment. During the same year the Canadian National Railways placed 2,860 families and 2,969 single men, while the Canadian Pacific Railway placed 2,232 families and 4,211 single men, making a total of 6,040 families and 12,682 single men. On the basis of five members to each family the report estimates 42,882 persons were placed on the land in this period.

In the first part of December the provincial government of Manitoba presented to the Dominion Government a further scheme providing for advances to be made to prospective colonists, the Dominion to contribute 50 per cent, the Province 25 per cent, and the municipalities concerned 25 per cent. The carrying out of this scheme was to be under the supervision of the Dominion Department of Immigration and Colonization with the cooperation of the colonization department of the Canadian National Railways, the immigration and colonization department of the Canadian Pacific Railway, the Canadian National Land Settlement Association, the Canada Colonization Association, and the Hudson's Bay Overseas Settlement (Ltd.). The suggestion was offered that "advances be made as required, up to a maximum,

exclusive of the cost of land, not to exceed $1,000 per family, to cover transportation and establishment of the family on farm, repairing buildings, sustenance for two years, purchase of stock, implements, and seed." The Federal authorities, however, did not place their approval on this plan.

Action of Provinces

IN ADDITION to the colonization activities of the Dominion Government, the various Provinces have also been making efforts in the same direction and with substantial success, especially in the case of Quebec, Ontario, and Saskatchewan.

In 1931 the provincial government of Quebec undertook to aid in the placement of unemployed families on the land, providing them with the necessary equipment to maintain themselves during the winter season. The provincial department of colonization collaborates with the provincial department of agriculture in arranging for small grants for land clearing and plowing. Up to November, 1931, some 23,000 persons from the cities and towns of Quebec had been placed in colonization districts. Furthermore, at the suggestion of the coadjutor-archbishop of Montreal, a colonization company has been organized to promote the return of unemployed persons to the land.

Large numbers of single men have been placed on farms by the provincial government of Saskatchewan, much of the expense involved being met by grants which that Province had received from the Dominion under the Federal unemployment and farm relief act of 1931. The men so placed are accorded $5 a month from the government while the farmers who employ them and give them board and lodging are paid $10 a month. Under this arrangement it is stipulated that the men shall be employed in useful work. Under the Saskatchewan government colonization scheme, unemployed men are removed from the cities and placed on agricultural land, the Province lending up to $500 in each case.

Alberta and British Columbia are considering colonization schemes similar to that in operation in Saskatchewan. The provincial government of British Columbia is furthering land settlement by surveying lands which had reverted to the Province and selling them cheap on easy terms. In November, 1931, the government of Manitoba approved a scheme under which 200 families were to be selected to settle on improved farms. An advance up to $1,000 was to be made to each family for actual settlement, equipment, and food.

HOUSING

Building Permits in Principal Cities of the United States, February, 1932

REPORTS of building permits issued have been received by the Bureau of Labor Statistics of the United States Department of Labor from 355 identical cities having a population of 25,000 or over for the months of January, 1932, and February, 1932, and from 346 identical cities having a population of 25,000 or over for the months of February, 1931, and February, 1932.

The cost figures as shown in the following tables apply to the costs of the building as estimated by the prospective builder on applying for his permit to build. No land costs are included. Only building projects within the corporate limits of the cities enumerated are shown. The States of Illinois, Massachusetts, New York, New Jersey, and Pennsylvania, through their departments of labor, are cooperating with the United States Bureau of Labor Statistics in the collection of these data.

Table 1 shows the estimated cost of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 355 identical cities of the United States, by geographic divisions.

TABLE 1.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 355 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN JANUARY AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings (estimated cost)			New nonresidential buildings (estimated cost)		
	January, 1932	February, 1932	Per cent of change	January, 1932	February, 1932	Per cent of change
New England	$1,529,500	$637,232	−58.3	$1,376,502	$1,670,980	+21.4
Middle Atlantic	5,285,855	4,911,647	−7.1	11,618,613	4,492,467	−61.3
East North Central	1,031,551	1,141,240	+10.6	4,262,907	4,864,772	+14.1
West North Central	708,590	647,795	−8.6	922,228	384,134	−58.3
South Atlantic	1,501,650	1,541,805	+2.7	3,112,734	2,196,678	−29.4
South Central	849,568	725,678	−14.6	5,221,061	2,202,534	−57.9
Mountain and Pacific	2,331,005	2,222,183	−4.7	2,631,799	3,421,406	+30.0
Total	13,237,719	11,827,580	−10.7	29,145,844	19,232,971	−34.0

Geographic division	Additions, alterations, and repairs (estimated cost)			Total construction (estimated cost)			Number of cities
	January, 1932	February, 1932	Per cent of change	January, 1932	February, 1932	Per cent of change	
New England	$1,185,126	$1,795,037	+51.5	$4,091,128	$4,103,249	+0.3	54
Middle Atlantic	3,520,694	3,013,074	−14.4	20,425,162	12,417,188	−39.2	71
East North Central	1,072,660	1,295,378	+20.8	6,367,118	7,301,390	+14.7	94
West North Central	428,188	503,890	+17.7	2,059,006	1,535,819	−25.4	25
South Atlantic	1,104,462	1,134,345	+2.7	5,718,846	4,872,828	−14.8	38
South Central	771,717	655,251	−15.3	6,842,346	3,583,463	−47.7	35
Mountain and Pacific	1,379,284	1,381,762	+0.2	6,342,088	7,025,351	+10.8	38
Total	9,462,131	9,778,737	+3.3	51,845,694	40,839,288	−21.2	355

The total estimated cost of all building operations for which permits were issued during February, 1932, was $40,839,288. This is 21.2 per cent less than the estimated cost of all building operations for which permits were issued during January, 1932, in these cities.

Four of the geographic divisions registered decreases in total building operations and three showed increases. The decreases ranged from 14.8 per cent in the South Atlantic division to 47.7 per cent in the South Central division. The increases ranged from a low of three-tenths of 1 per cent in the New England States to a high of 14.7 per cent in the East North Central States.

Indicated expenditures for new residential buildings showed a decrease of 10.7 per cent, comparing February with January, in these 355 cities. Decreases were shown in all geographic divisions except the East North Central and the South Atlantic.

New nonresidential buildings decreased 34.0 per cent in estimated cost, comparing February with January. Increases, however, were shown in three of the geographic divisions and decreases in four geographic divisions.

There was an increase in indicated expenditures for additions, alterations, and repairs of 3.3 per cent. Five of the seven geographic divisions showed increases in this class of construction. The highest increase, 51.5 per cent, was shown in the New England States, and the lowest, two-tenths of 1 per cent, in the Mountain and Pacific States.

Table 2 shows the number of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 355 identical cities of the United States by geographic divisions.

TABLE 2.—NUMBER OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 355 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN JANUARY AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings		New nonresidential buildings		Additions, alterations, and repairs		Total construction	
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
New England	183	110	334	258	1,074	1,092	1,591	1,460
Middle Atlantic	473	628	864	856	3,122	3,253	4,459	4,737
East North Central	215	212	783	831	1,571	1,830	2,569	2,873
West North Central	170	168	247	307	560	674	977	1,149
South Atlantic	293	248	461	444	2,013	2,076	2,767	2,768
South Central	318	303	430	489	1,555	1,519	2,303	2,311
Mountain and Pacific	572	577	895	998	2,852	2,948	4,319	4,523
Total	2,224	2,246	4,014	4,183	12,747	13,392	18,985	19,821
Per cent of change		+1.0		+4.2		+5.1		+4.4

During February, 1932, permits were issued for 19,821 building operations in these 355 cities. This is an increase of 4.4 per cent as compared with January. Increases in the number of buildings were shown in all geographic divisions except New England.

There was an increase of 1.0 per cent in the number of new residential buildings for which permits were issued, comparing February, 1932, with January, 1932. The number of new nonresidential buildings increased 4.2 per cent, and the number of additions, alterations, and repairs increased 5.1 per cent, comparing these two periods.

Table 3 shows the number of families provided for in the different kinds of housekeeping dwellings, together with the estimated cost of such dwellings for which permits were issued in 355 identical cities during January, 1932, and February, 1932, by geographic divisions.

TABLE 3.—ESTIMATED COST AND NUMBER OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF HOUSEKEEPING DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 355 IDENTICAL CITIES IN JANUARY AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	1-family dwellings				2-family dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
New England	$1,157,000	$550,732	159	101	$122,500	$86,500	34	17
Middle Atlantic	1,986,755	2,301,218	324	513	807,600	686,929	228	198
East North Central	935,951	903,190	206	197	40,100	83,550	12	23
West North Central	648,090	567,545	161	154	49,500	70,250	16	21
South Atlantic	1,215,690	1,053,605	279	236	26,835	57,200	10	19
South Central	692,408	614,992	288	282	101,160	66,225	47	30
Mountain and Pacific	1,874,505	1,908,656	517	530	214,200	169,527	74	69
Total	8,510,399	7,899,938	1,934	2,013	1,361,895	1,220,181	421	377
Per cent of change		−7.2		+4.1		−10.4		−10.5

Geographic division	Multifamily dwellings				Total, all kinds of housekeeping dwellings			
New England	$250,000	0	76	0	$1,529,500	$637,232	269	118
Middle Atlantic	2,471,500	1,848,500	799	536	5,265,855	4,836,647	1,351	1,247
East North Central	55,500	69,500	11	16	1,031,551	1,056,240	229	236
West North Central	11,000	10,000	4	3	708,590	647,795	181	178
South Atlantic	259,125	431,000	84	82	1,501,650	1,541,805	373	337
South Central	56,000	44,461	25	21	849,568	725,678	360	333
Mountain and Pacific	242,300	144,000	108	68	2,331,005	2,222,183	699	667
Total	3,345,425	2,547,461	1,107	726	13,217,719	11,667,580	3,462	3,116
Per cent of change		−23.9		−34.4		−11.7		−10.0

According to permits issued during February, 1932, 2,013 family dwelling units were to be provided in new 1-family dwellings. This is an increase of 4.1 per cent in the number of family dwelling units provided in single-family dwellings, as compared with January, 1932. The indicated expenditures for this class of dwellings, however, decreased 7.2 per cent.

The estimated cost of 2-family dwellings decreased 10.4 per cent and the number of family dwelling units to be provided therein decreased 10.5 per cent, comparing February reports with January reports.

There was a decrease of 23.9 per cent in indicated expenditures for apartment houses and a decrease of 34.4 per cent in the number of family dwelling units provided in them, comparing building permit reports received from these 355 cities.

In these cities, dwelling units were provided in all classes of buildings during February, 1932, for 3,116 families. This is a decrease of 10.0 per cent as compared with the number of family dwelling units provided during January, 1932. The estimated cost of all classes of housekeeping dwellings in February, 1932, was 11.7 per cent less than the cost of such dwellings in January, 1932.

Table 4 shows the index number of families provided for and the index numbers of indicated expenditures for new residential buildings, new nonresidential buildings, additions, alterations, and repairs, and for total building operations.

These indexes are worked on the chain system, with the monthly average of 1929 equaling 100.

TABLE 4.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF THE ESTIMATED COST OF BUILDING OPERATIONS AS SHOWN BY PERMITS ISSUED IN PRINCIPAL CITIES OF THE UNITED STATES, FEBRUARY, 1930, FEBRUARY, 1931, AND JANUARY AND FEBRUARY, 1932

[Monthly average, 1929=100]

Month	Families provided for	Estimated cost of—			
		New residential buildings	New nonresidential buildings	Additions, alterations, and repairs	Total building operations
1930					
February	43.0	34.7	51.8	57.5	44.1
1931					
February	40.3	30.3	43.8	48.6	37.9
1932					
January	14.4	10.2	25.0	25.8	18.2
February	13.0	9.1	16.5	26.7	14.3

There was a decrease in the index number of families provided for and in the index numbers of estimated cost of new residential buildings, new nonresidential buildings, and total building operations, comparing February, 1932, with January, 1932. There was, however, an increase in the index number for additions, alterations, and repairs.

The charts on pages 866 and 867 show in graphic form the information contained in Table 4.

Table 5 shows the number and value of contracts awarded for public buildings by the different agencies of the United States Government during the months of February, 1931, and January and February, 1932.

TABLE 5.—CONTRACTS LET FOR PUBLIC BUILDINGS BY DIFFERENT AGENCIES OF THE UNITED STATES GOVERNMENT DURING FEBRUARY, 1931, AND JANUARY AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	February, 1931		January, 1932		February, 1932[1]	
	Number	Cost	Number	Cost	Number	Cost
New England	5	$107,536	8	$316,085	10	$394,501
Middle Atlantic	9	113,230	20	1,012,193	15	520,020
East North Central	9	902,279	21	913,785	26	504,714
West North Central	3	114,600	9	731,218	5	69,009
South Atlantic	32	1,389,117	25	2,428,141	44	1,902,228
South Central	9	493,817	7	611,727	32	2,597,166
Mountain and Pacific	19	313,086	38	1,058,829	34	1,273,468
Total	86	3,433,665	128	7,071,978	166	7,261,106

[1] Subject to revision.

During February, 1932, contracts were awarded by various Federal agencies for 166 building operations to cost $7,261,106. The value of these awards was slightly higher than for January, 1932, and more than twice as high as for February, 1931.

Table 6 shows the value of contracts awarded by the different State governments for public buildings during the months of February, 1931, and January and February, 1932, by geographic divisions.

TABLE 6.—CONTRACTS AWARDED FOR PUBLIC BUILDINGS BY THE DIFFERENT STATE GOVERNMENTS DURING FEBRUARY, 1931, AND JANUARY AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	February, 1931	January, 1932	February, 1932 [1]
New England	$101,905	0	$32,697
Middle Atlantic	1,045,915	$3,659,785	1,079,518
East North Central	222,304	1,380,877	175,670
West North Central	30,291	6,730	197,908
South Atlantic	154,190	669,204	239,813
South Central	4,120	3,891,569	357,014
Mountain and Pacific	574,237	1,289,443	458,793
Total	2,132,962	10,897,608	2,541,413

[1] Subject to revision.

Contracts awarded by the various State governments during February, 1932, totaled $2,541,413. This was considerably lower than for January, 1932, but slightly higher than for February, 1931.

Whenever a contract is awarded by the Federal Government or by a State government for a building in a city having a population of 25,000 or over, the number or cost of such building is included in the number and cost as shown in the several tables presented herewith.

Table 7 shows the estimated cost of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building construction in 346 identical cities of the United States having a population of 25,000 or over, for the months of February, 1931, and February, 1932, by geographic divisions.

TABLE 7.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 346 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN FEBRUARY, 1931, AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings (estimated cost)			New nonresidential buildings (estimated cost)		
	February, 1931	February, 1932	Per cent of change	February, 1931	February, 1932	Per cent of change
New England	$1,987,340	$548,100	−72.4	$2,799,456	$1,666,605	−40.5
Middle Atlantic	14,237,482	4,875,647	−65.8	16,352,272	4,447,292	−72.8
East North Central	5,209,700	1,141,240	−78.1	12,316,999	4,861,472	−60.5
West North Central	1,691,520	647,795	−61.7	2,857,979	384,134	−86.6
South Atlantic	5,665,521	1,541,805	−72.8	2,649,581	2,196,678	−17.1
South Central	2,847,278	725,678	−74.5	4,919,243	2,200,644	−55.3
Mountain and Pacific	5,883,583	2,204,917	−62.5	5,135,333	3,415,851	−33.5
Total	37,522,424	11,685,182	−68.9	47,030,863	19,172,676	−59.2

TABLE 7.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 346 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN FEBRUARY, 1931, AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS—Continued

Geographic division	Additions, alterations, and repairs (estimated cost)			Total construction (estimated cost)			Number of cities
	February, 1931	February, 1932	Per cent of change	February, 1931	February, 1932	Per cent of change	
New England	$1,007,982	$1,760,993	+74.7	$5,794,778	$3,975,698	−31.4	51
Middle Atlantic	5,981,389	2,996,122	−49.9	36,571,143	12,319,061	−66.3	69
East North Central	4,419,144	1,294,928	−70.7	21,945,843	7,297,640	−66.7	93
West North Central	539,467	503,890	−6.6	5,088,966	1,535,819	−69.8	25
South Atlantic	1,891,455	1,134,345	−40.0	10,206,557	4,872,828	−52.3	38
South Central	985,701	654,026	−33.6	8,752,222	3,580,348	−59.1	34
Mountain and Pacific	1,891,740	1,363,427	−27.9	12,910,656	6,984,195	−45.9	36
Total	16,716,878	9,707,731	−41.9	101,270,165	40,565,589	−59.9	346

The estimated cost of new residential buildings decreased 68.9 per cent, comparing permits issued in February, 1932, with those issued in February, 1931, in these 346 cities. All geographic divisions registered decreases in expenditures for this class of building.

New nonresidential buildings decreased 59.2 per cent in indicated expenditures, comparing February, 1932, with February, 1931. Decreases were shown in each of the seven geographic divisions.

The estimated cost of additions, alterations, and repairs decreased 41.9 per cent, comparing February, 1932, with the same month of a year ago. New England was the only geographic division showing an increase in expenditures for this class of structure.

Total construction decreased 59.9 per cent in February, 1932, as compared with February, 1931. All seven geographic divisions showed decreases. The decreases ranged from 31.4 per cent in New England to 69.8 per cent in the West North Central States.

Table 8 shows the number of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 346 identical cities having a population of 25,000 or over for February, 1931, and February, 1932.

TABLE 8.—NUMBER OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 346 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN FEBRUARY, 1931, AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings		New nonresidential buildings		Additions, alterations, and repairs		Total construction	
	February, 1931	February, 1932	February, 1931	February, 1932	February, 1931	February, 1932	February, 1931	February, 1932
New England	176	98	289	247	1,130	1,073	1,595	1,418
Middle Atlantic	1,149	623	1,236	840	2,945	3,223	5,330	4,686
East North Central	806	212	1,376	830	2,550	1,828	4,732	2,87
West North Central	353	168	630	307	954	674	1,937	1,149
South Atlantic	389	248	576	444	1,968	2,076	2,933	2,768
South Central	766	303	608	489	1,651	1,519	3,025	2,311
Mountain and Pacific	1,099	569	1,408	982	3,380	2,911	5,887	4,462
Total	4,738	2,221	6,123	4,139	14,578	13,304	25,439	19,664
Per cent of change		−53.1		−32.4		−8.7		−22.7

There were decreases in the number of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total construction, comparing permits issued during February, 1932, with those issued during February, 1931.

Table 9 shows the number of families provided for in the different kinds of housekeeping dwellings, together with the cost of such dwellings for which permits were issued in 346 identical cities during February, 1931, and February, 1932, by geographic divisions.

TABLE 9.—ESTIMATED COST AND NUMBER OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF HOUSEKEEPING DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 346 IDENTICAL CITIES IN FEBRUARY, 1931, AND FEBRUARY, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	1-family dwellings				2-family dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	February, 1931	February, 1932	February, 1931	February, 1932	February, 1931	February, 1932	February, 1931	February, 1932
New England	$820,400	$461,600	141	89	$202,000	$86,500	54	17
Middle Atlantic	5,033,945	2,265,218	911	508	1,432,037	686,929	328	198
East North Central	3,744,226	903,190	710	197	620,600	83,550	148	23
West North Central	1,360,020	567,545	331	154	83,500	70,250	26	21
South Atlantic	1,857,971	1,053,605	363	236	56,550	57,200	29	19
South Central	1,909,842	614,992	623	282	490,300	66,225	233	30
Mountain and Pacific	3,854,629	1,891,390	959	522	453,254	169,527	136	69
Total	18,581,033	7,757,540	4,038	1,988	3,338,241	1,220,181	954	377
Per cent of change		−58.3		−50.8		−63.4		−60.5

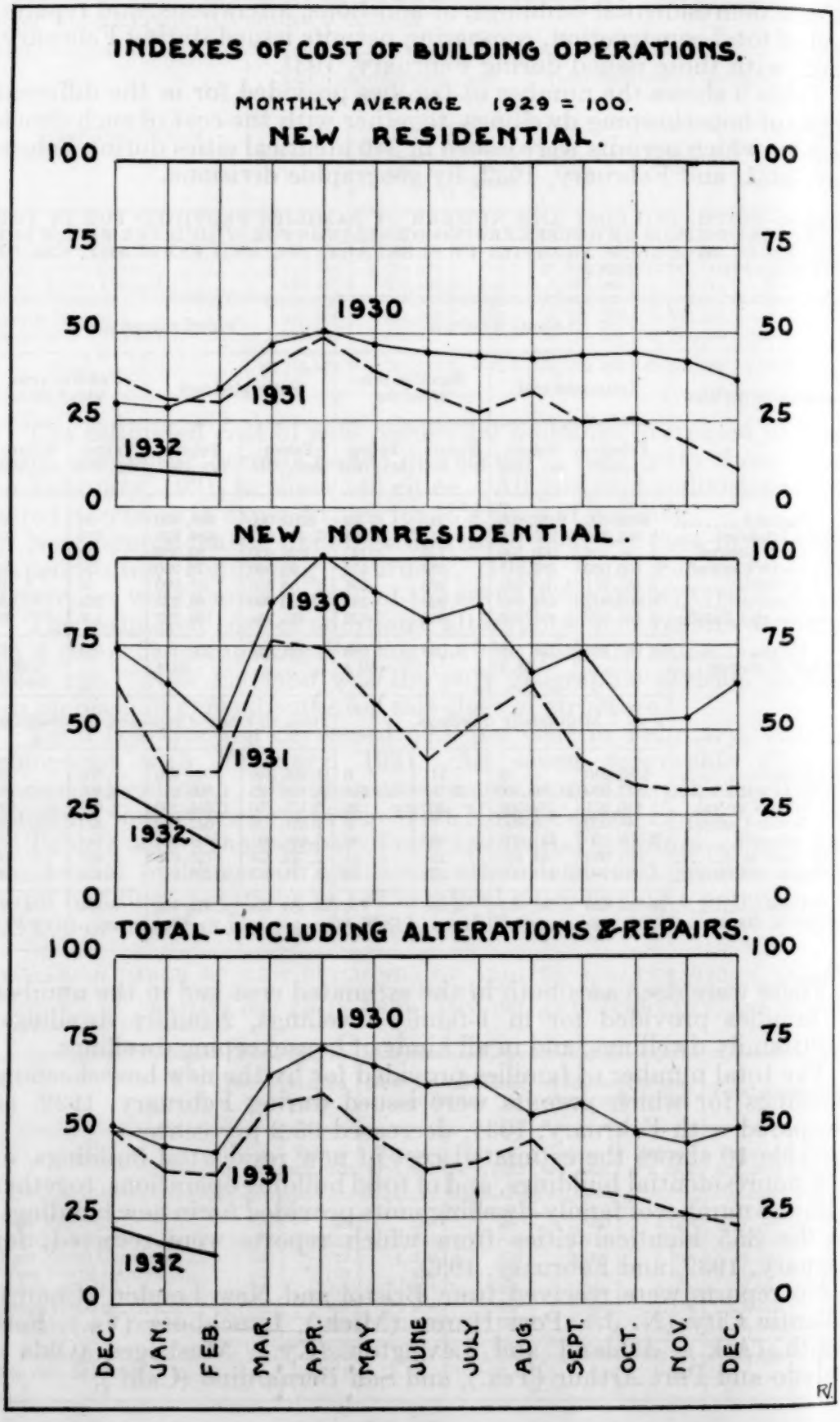
Geographic division	Multifamily dwellings				Total, all kinds of housekeeping dwellings			
New England	$383,940	0	111	0	$1,406,340	$548,100	306	106
Middle Atlantic	7,647,000	$1,848,500	2,168	536	14,112,982	4,800,647	3,407	1,242
East North Central	810,924	69,500	209	16	5,175,750	1,056,240	1,067	236
West North Central	248,000	10,000	77	3	1,691,520	647,795	434	178
South Atlantic	3,709,500	431,000	652	82	5,624,021	1,541,805	1,044	337
South Central	333,086	44,461	151	21	2,733,228	725,678	1,007	333
Mountain and Pacific	1,403,200	144,000	530	68	5,711,083	2,204,917	1,625	659
Total	14,535,650	2,547,461	3,898	726	36,454,924	11,525,182	8,890	3,091
Per cent of change		−82.5		−81.4		−68.4		−65.2

There were decreases both in the estimated cost and in the number of families provided for in 1-family dwellings, 2-family dwellings, multifamily dwellings, and in all kinds of housekeeping dwellings.

The total number of families provided for by the new housekeeping dwellings for which permits were issued during February, 1932, as compared with February, 1931, decreased 65.2 per cent.

Table 10 shows the estimated cost of new residential buildings, of new nonresidential buildings, and of total building operations, together with the number of family-dwelling units provided for in new buildings, in the 355 identical cities from which reports were received, for January, 1932, and February, 1932.

No reports were received from Bristol and New London (Conn.), Atlantic City (N. J.), Port Huron (Mich.), Lynchburg (Va.), Fort Smith (Ark.), Ashland and Lexington (Ky.), Muskogee (Okla.), Laredo and Port Arthur (Tex.), and San Bernardino (Calif.).


INDEXES OF COST OF BUILDING OPERATIONS.
MONTHLY AVERAGE 1929 = 100.
NEW RESIDENTIAL.
100
75
50
25
0
1930
1931
1932
NEW NONRESIDENTIAL.
TOTAL - INCLUDING ALTERATIONS & REPAIRS.
DEC.
JAN.
FEB.
MAR.
APR.
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.

Permits were issued for the following important building projects during the month of February, 1932: In Cambridge, Mass., for a high-school building to cost $1,000,000; in the Borough of Manhattan, for a school building to cost nearly $750,000; in the Borough of Queens, for two apartment houses to cost $1,260,000; in Norristown, Pa., for a State hospital to cost over $300,000; in Philadelphia, for an office building to cost over $300,000; in Fort Wayne, Ind., for a city filtration plant to cost $1,000,000; in Cincinnati, for a public-works building to cost $700,000; in Cleveland, for a city assembly hall to cost $1,500,000; in Memphis, for a city water plant to cost $429,000; in Long Beach, for a public building to cost nearly $500,000. A contract was awarded by the Director of Veterans' Administration for a veterans' hospital at St. Petersburg, Fla., to cost over $1,000,000.

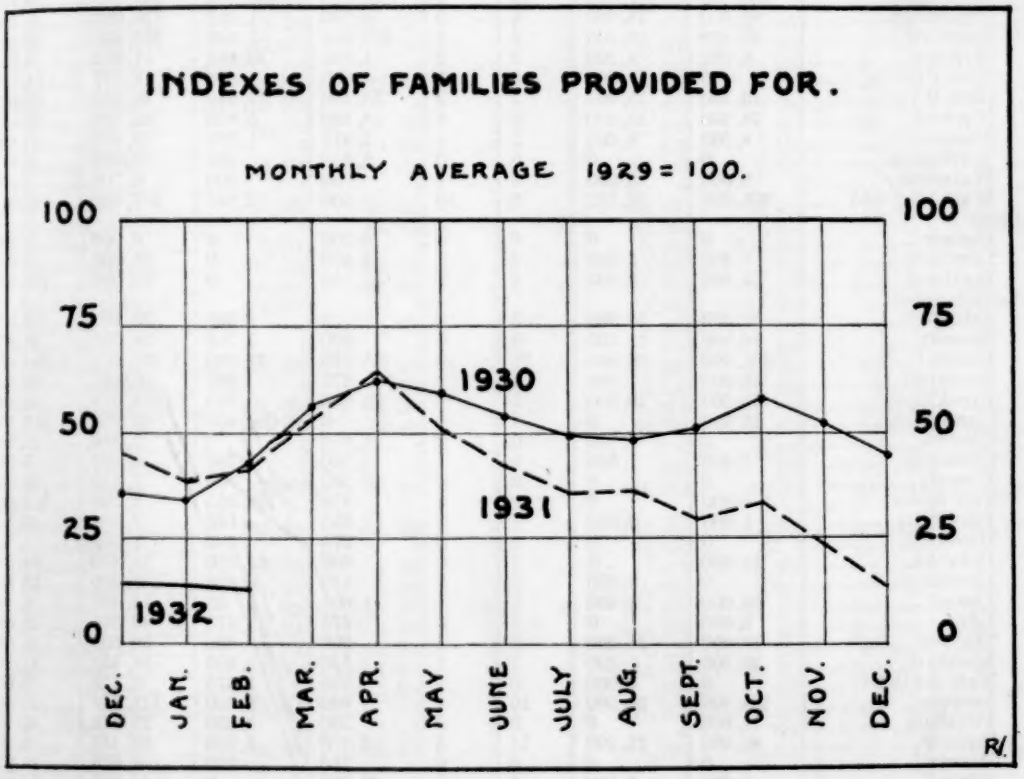


TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932

New England States

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
Connecticut:								
Bridgeport	$56,300	$27,700	18	7	$4,575	$23,560	$81,705	$73,310
Greenwich	80,000	19,000	6	3	4,100	1,625	128,000	41,505
Hartford	38,800	22,800	9	5	373,224	1,580	592,836	69,669
Meriden	5,500	8,200	2	2	1,702	10,885	11,652	19,930
New Britain	0	17,000	0	1	800	1,675	8,877	31,733
New Haven	40,300	15,000	7	2	35,400	12,040	99,885	43,005
Norwalk	38,000	16,400	9	4	18,100	5,825	65,305	30,490
Stamford	4,500	8,000	2	1	2,475	1,770	19,975	25,890
Torrington	0	0	0	0	5,310	460	10,060	10,945
Waterbury	6,000	3,000	2	1	700	100	8,700	5,650
West Hartford	305,600	79,132	6	10	600	2,875	307,980	102,341
Maine:								
Bangor	0	0	0	0	6,000	0	6,000	22,200
Lewiston	7,000	5,000	2	1	6,300	0	13,300	5,000
Portland	19,300	9,500	4	2	1,135	0	39,085	208,531
Massachusetts:								
Arlington	22,500	10,000	3	2	0	1,500	23,100	14,660
Beverly	14,800	21,100	3	4	300	5,705	24,550	28,755
Boston[1]	303,000	70,000	78	10	735,180	37,000	1,295,604	1,045,674
Brockton	21,500	7,800	4	2	1,675	900	30,835	21,325
Brookline	61,500	40,000	7	2	22,000	750	343,075	43,500
Cambridge	16,000	0	4	0	0	1,000,400	40,935	1,051,520
Chelsea	0	8,700	0	2	1,075	0	3,350	12,935
Chicopee	5,500	1,800	1	1	1,700	3,250	9,400	7,550
Everett	0	0	0	0	7,500	900	7,850	14,900
Fall River	4,300	0	1	0	475	191,965	8,390	210,412
Fitchburg	3,000	9,000	1	2	2,535	150	7,385	10,500
Haverhill	0	0	0	0	275	200	2,705	1,550
Holyoke	14,000	0	2	0	600	65,250	15,850	65,250
Lawrence	0	8,000	0	2	450	3,650	8,250	15,485
Lowell	10,000	3,400	2	1	1,025	25	14,485	9,190
Lynn	4,000	0	1	0	7,475	1,475	40,035	16,880
Malden	19,900	21,200	5	5	500	400	30,500	26,820
Medford	30,500	7,500	7	3	1,750	6,500	34,465	17,125
New Bedford	0	4,000	0	1	725	1,675	6,175	10,075
Newton	106,500	28,500	10	4	900	3,950	115,145	39,545
Pittsfield	14,800	0	2	0	200	1,250	25,175	6,150
Quincy	40,800	21,100	11	5	4,475	5,650	52,181	54,490
Revere	0	0	0	0	750	250	7,975	11,200
Salem	6,000	8,500	1	1	32,330	0	43,580	13,995
Somerville	0	0	0	0	3,525	121,060	6,920	130,775
Springfield	1,800	12,800	1	3	4,775	3,800	16,650	38,200
Taunton	3,700	3,200	3	2	1,275	585	22,246	7,510
Waltham	10,500	0	2	0	1,225	8,600	18,745	9,750
Watertown	3,000	0	1	0	1,600	175	5,100	2,625
Worcester	66,300	25,500	15	6	3,675	11,785	96,810	54,521
New Hampshire:								
Concord	5,500	1,000	4	1	900	0	7,400	1,000
Manchester	18,900	0	5	0	615	165	34,066	10,340
Rhode Island:								
Central Falls	0	0	0	0	0	0	0	8,510
Cranston	36,800	15,900	9	5	2,050	2,125	46,055	21,750
East Providence	4,800	11,500	1	2	1,135	77,335	13,817	98,396
Newport	5,000	24,500	1	5	7,300	2,900	15,570	33,300
Pawtucket	0	26,500	0	5	650	2,380	4,130	35,180
Providence	58,800	15,000	15	3	63,236	44,740	200,374	195,067
Woonsocket	0	0	0	0	225	140	3,790	6,090
Vermont:								
Burlington	14,500	0	2	0	0	0	15,100	10,550
Total	1,529,500	637,232	269	118	1,376,502	1,670,980	4,091,128	4,103,249
Per cent of change		−58.3		−56.1		+21.4		+0.3

[1] Applications filed.

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

Middle Atlantic States

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
New Jersey:								
Bayonne	$9,000	0	3	0	$1,700	0	$16,300	$5,675
Belleville	10,500	$4,500	3	1	1,610	$1,400	13,610	9,505
Bloomfield	42,000	7,000	9	2	1,500	11,600	46,500	20,500
Camden	0	0	0	0	17,000	72,852	20,432	135,052
Clifton	38,000	38,000	9	8	4,900	4,675	45,115	47,800
East Orange	13,300	0	3	0	1,050	2,900	18,244	31,344
Elizabeth	15,000	6,000	3	1	2,500	1,200	17,500	7,200
Garfield	0	4,300	0	2	825	1,100	4,575	9,950
Hackensack	10,500	6,000	3	2	17,363	4,800	74,862	21,922
Hoboken	0	0	0	0	0	0	11,070	8,400
Irvington	12,000	28,000	3	6	59,820	24,100	73,220	57,675
Jersey City	0	61,500	0	16	60,685	5,575	76,735	90,690
Kearny	6,000	0	2	0	9,550	175,650	21,350	176,300
Montclair	41,500	25,000	4	3	2,825	1,500	62,325	30,200
Newark	96,500	62,900	19	13	26,220	54,150	386,588	188,235
New Brunswick	2,500	0	1	0	13,335	12,080	18,443	16,262
Orange	0	6,000	0	1	5,550	500	8,043	19,710
Passaic	0	0	0	0	650	600	10,030	20,775
Paterson	23,200	7,250	6	2	2,900	11,700	58,880	45,457
Perth Amboy	0	0	0	0	2,550	600	9,050	6,008
Plainfield	45,000	6,500	1	1	1,250	0	51,150	14,607
Trenton	13,700	19,900	3	3	10,785	14,500	34,987	52,650
Union City	0	0	0	0	0	5,800	14,010	21,215
West New York	0	0	0	0	500	350	12,900	11,110
West Orange	58,000	30,000	8	3	441,248	40,375	499,758	76,205
New York:								
Albany	145,400	61,500	8	8	142,450	17,000	312,295	104,375
Amsterdam	0	0	0	0	15,500	0	15,500	130
Auburn	4,500	4,500	1	1	475	5,295	6,285	40,187
Binghamton	21,200	6,000	1	1	5,615	2,900	70,145	22,098
Buffalo	84,600	76,200	33	28	157,827	95,177	293,707	235,037
Elmira	9,000	2,900	2	1	343,370	475	359,715	35,025
Jamestown	10,700	12,000	3	3	1,125	225	20,065	16,715
Kingston	5,000	11,600	1	3	190,891	29,375	202,291	47,105
Lockport	0	3,500	0	1	800	1,050	6,905	5,050
Mount Vernon	10,000	0	1	0	13,850	10,700	37,790	22,955
Newburgh	0	0	0	0	0	600	21,150	3,550
New Rochelle	32,400	20,300	5	4	4,900	42,640	43,250	68,940
New York City—								
The Bronx [1]	868,790	438,500	259	126	101,200	91,700	1,174,639	706,545
Brooklyn [1]	2,020,000	662,500	576	173	2,843,740	456,020	5,292,876	1,590,790
Manhattan [1]	0	0	0	0	5,699,800	1,733,700	6,521,250	2,552,376
Queens [1]	817,900	2,223,325	215	615	193,668	526,146	1,247,445	3,040,159
Richmond [1]	156,550	64,850	41	16	12,973	11,985	602,573	106,635
Niagara Falls	13,500	19,700	3	5	14,990	2,470	38,045	45,425
Poughkeepsie	37,000	6,000	6	1	0	75	42,700	8,175
Rochester	20,850	46,200	5	10	6,835	45,270	55,445	139,065
Schenectady	0	4,000	0	1	1,350	9,750	28,474	22,889
Syracuse	66,200	38,300	13	7	553,507	8,100	641,462	62,155
Troy	50,200	25,800	9	5	2,010	0	55,455	36,356
Utica	14,000	23,000	2	5	750	0	16,775	24,350
Watertown	4,000	0	1	0	5,625	0	18,355	2,510
White Plains	14,000	45,000	2	5	1,685	3,500	43,360	54,513
Yonkers	166,500	197,500	26	24	38,695	47,475	226,895	263,525
Pennsylvania:								
Allentown	10,500	10,000	1	2	184,225	7,950	235,954	34,865
Altoona	0	0	0	0	1,835	1,130	9,476	9,917
Bethlehem	0	0	0	0	575	1,811	1,725	2,611
Butler	0	0	0	0	0	0	17,000	2,800
Chester	0	0	0	0	0	1,800	4,000	2,800
Easton	10,000	0	1	0	1,300	800	17,600	1,650
Erie	44,800	20,100	12	5	17,675	14,900	75,980	52,852
Harrisburg	0	0	0	0	8,859	1,750	46,939	16,050
Hazleton	0	9,372	0	3	2,990	765	10,338	14,710
Johnstown	0	0	0	0	695	3,300	2,625	10,055
Lancaster	8,500	0	2	0	0	10,750	18,750	17,375

[1] Applications filed.

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

Middle Atlantic States—Continued

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
Pennsylvania—Con.								
McKeesport	0	$6,200	0	2	$325	$600	$4,359	$15,145
Nanticoke	$9,000	8,000	2	2	0	1,000	9,000	9,800
New Castle	6,800	0	3	0	1,400	0	8,510	0
Norristown	0	0	0	0	2,662	411,643	6,752	417,445
Philadelphia	24,500	453,600	3	101	127,565	383,570	421,950	969,815
Pittsburgh	92,200	58,850	19	15	179,300	37,840	328,495	298,524
Reading	20,000	4,000	2	1	35,000	5,350	71,510	36,391
Scranton	22,475	22,800	4	5	2,175	9,050	74,405	42,735
Wilkes-Barre	12,090	4,500	4	1	3,148	1,600	20,181	32,512
Wilkinsburg	11,000	8,200	3	3	0	0	14,026	10,540
Williamsport	0	0	0	0	7,507	3,885	15,254	25,038
York	5,000	0	2	0	1,430	3,338	9,809	12,276
Total	5,285,855	4,911,647	1,351	1,247	11,618,613	4,492,467	20,425,162	12,417,188
Per cent of change		−7.1		−7.7		−61.3		−39.2

East North Central States

Illinois:								
Alton	0	0	0	0	$100	$215	$14,065	$29,177
Aurora	0	0	0	0	2,985	375	9,985	955
Belleville	$18,600	$8,000	4	3	0	500	19,200	9,047
Berwyn	0	8,250	0	2	400	450	1,900	8,700
Bloomington	2,000	3,000	1	1	2,000	0	4,000	3,000
Chicago	86,350	76,000	15	15	333,835	716,817	596,645	939,198
Cicero	0	0	0	0	0	4,500	60	5,750
Danville	0	3,000	0	1	0	3,250	1,825	10,067
Decatur	475	0	1	0	1,250	5,000	5,000	5,000
East St. Louis	4,700	11,450	2	5	7,375	990	20,425	18,045
Elgin	5,000	0	1	0	500	500	6,430	1,705
Evanston	0	85,000	0	0	1,000	1,500	22,500	109,500
Granite City	0	0	0	0	0	0	0	0
Joliet	5,000	0	1	0	0	0	14,200	20,274
Maywood	0	0	0	0	0	350	1,000	1,500
Moline	4,000	0	1	0	300	385	5,448	10,925
Oak Park	0	6,500	0	1	250	100	1,320	7,000
Peoria	52,800	32,500	13	8	2,200	3,575	61,600	42,400
Quincy	0	0	0	0	27,772	585	27,842	14,375
Rockford	13,000	7,000	3	2	3,050	1,900	31,900	43,995
Rock Island	4,000	13,300	1	4	0	1,465	5,553	21,212
Springfield	32,800	16,700	7	4	8,755	6,385	48,947	30,319
Waukegan	6,000	4,000	1	1	1,500	2,000	10,150	11,000
Indiana:								
Anderson	3,300	4,200	2	2	1,750	2,680	6,300	8,270
East Chicago	0	0	0	0	0	200	1,700	450
Elkhart	7,500	0	2	0	90	5,575	10,041	8,190
Evansville	5,900	0	2	0	16,370	94,906	25,571	101,616
Fort Wayne	12,900	11,350	2	3	12,290	1,007,480	38,266	1,036,513
Gary	9,000	0	2	0	150	350	9,200	5,550
Hammond	0	0	0	0	200	366	9,900	14,666
Indianapolis	60,550	49,700	14	11	19,306	12,867	109,939	88,358
Kokomo	0	0	0	0	3,775	14,150	7,205	16,830
Lafayette	3,500	0	2	0	0	0	3,500	0
Marion	0	5,000	0	1	200	100	5,555	17,549
Michigan City	0	6,500	0	2	120	5,225	320	11,725
Mishawaka	0	0	0	0	3,505	1,150	3,755	1,150
Muncie	4,800	0	2	0	1,793	908	11,592	13,009
Richmond	0	0	0	0	0	0	2,500	1,300
South Bend	7,000	5,500	1	2	5,785	170,380	23,205	190,645
Terre Haute	0	0	0	0	325	675	2,849	7,985

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

East North Central States—Continued

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
Michigan:								
Ann Arbor	$17,800	$10,000	2	1	$300	$2,015	$33,540	$15,943
Battle Creek	4,860	16,500	5	2	10,150	3,425	20,370	20,660
Bay City	2,500	7,800	1	2	1,122	3,175	5,927	29,000
Dearborn	23,000	11,000	4	3	615	2,600	24,265	15,900
Detroit	95,100	195,790	20	36	179,316	91,162	358,806	427,195
Flint	7,356	0	2	0	10,420	10,447	24,146	19,622
Grand Rapids	3,000	18,000	1	4	15,135	11,575	23,425	51,800
Hamtramck	0	0	0	0	0	0	3,450	14,225
Highland Park	0	0	0	0	8,350	4,000	12,395	8,975
Jackson	0	0	0	0	265	380	2,650	2,605
Kalamazoo	0	2,700	0	2	2,925	690	13,644	10,915
Lansing	0	5,000	0	2	1,735	175	2,120	5,385
Muskegon	0	2,900	0	1	125	575	1,265	6,165
Pontiac	0	0	0	0	490	2,700	11,060	5,165
Royal Oak	0	0	0	0	680	3,300	680	3,750
Saginaw	4,500	0	2	0	950	2,435	10,060	12,425
Wyandotte	1,800	1,250	1	1	0	5,059	4,700	6,309
Ohio:								
Akron	15,900	5,400	3	3	6,300	19,065	35,214	56,919
Ashtabula	0	0	0	0	2,515	375	2,920	2,763
Canton	0	0	0	0	225	430	1,540	1,730
Cincinnati	262,760	219,800	52	47	104,525	715,315	516,798	977,745
Cleveland	49,500	82,500	10	19	2,752,750	1,691,700	2,901,900	1,934,175
Cleveland Heights	27,500	21,500	5	3	1,355	21,775	98,965	44,955
Columbus	18,300	19,000	3	4	32,500	36,700	83,700	104,600
Dayton	14,500	7,500	4	2	13,787	13,745	40,422	39,373
East Cleveland	0	0	0	0	2,200	2,201	4,330	3,021
Elyria	4,500	4,350	1	1	2,075	100	6,675	7,475
Hamilton	3,550	0	2	0	135	6,875	5,770	11,900
Lakewood	4,000	0	1	0	1,625	5,045	8,500	8,135
Lima	0	0	0	0	375	0	1,975	1,050
Lorain	3,700	0	1	0	700	350	4,400	350
Mansfield	1,200	24,700	1	5	60,405	875	62,220	26,625
Marion	0	0	0	0	0	0	0	410
Massillon	0	0	0	0	125	10	125	710
Middletown	4,800	0	1	0	33,746	1,050	41,421	6,510
Newark	0	0	0	0	480	250	955	250
Norwood	0	7,000	0	1	37,300	200	38,145	7,550
Portsmouth	0	0	0	0	0	1,156	500	1,381
Springfield	0	2,600	0	1	18,325	5,465	20,200	11,443
Steubenville	0	0	0	0	300	450	2,050	2,680
Toledo	6,700	15,300	3	4	2,476	1,675	21,046	25,410
Warren	0	0	0	0	590	665	3,390	3,005
Youngstown	0	5,200	0	2	377,527	2,500	386,672	10,730
Wisconsin:								
Eau Claire	0	8,000	0	2	14,400	0	14,400	8,000
Fond du Lac	8,500	6,000	3	2	4,905	1,950	14,905	19,510
Green Bay	13,500	0	3	0	800	25,237	19,575	27,567
Kenosha	9,000	0	2	0	1,080	275	13,280	1,125
Madison	13,500	8,000	3	2	6,352	4,925	21,972	49,818
Milwaukee	47,200	69,800	10	14	32,780	57,686	132,436	267,064
Oshkosh	0	1,700	0	1	265	500	6,225	2,855
Racine	5,000	0	1	0	10,750	18,195	17,300	47,795
Sheboygan	0	5,000	0	1	725	2,275	6,766	15,662
Superior	4,000	0	1	0	40,285	90	83,165	26,520
West Allis	4,850	0	1	0	6,715	14,100	13,365	21,560
Total	1,031,551	1,141,240	229	236	4,262,907	4,864,772	6,367,118	7,301,390
Per cent of change		+10.6		+3.1		+14.1		+14.7

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

West North Central States

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
Iowa:								
Burlington	0	0	0	0	$500	$2,500	$1,750	$5,850
Cedar Rapids	$14,250	$24,300	3	6	1,845	1,770	21,205	41,741
Council Bluffs	1,500	6,000	1	2	2,300	5,000	9,300	12,000
Davenport	4,000	18,500	2	6	3,495	3,560	11,737	27,701
Des Moines	16,500	38,500	3	9	3,435	4,375	66,035	50,875
Dubuque	8,200	0	3	0	28,225	1,425	38,427	2,990
Ottumwa	7,500	3,500	1	1	500	650	27,500	17,600
Sioux City	11,000	21,000	3	5	150	0	11,550	36,100
Waterloo	0	0	0	0	2,005	500	13,255	4,550
Kansas:								
Hutchinson	20,000	8,000	7	2	200	105	21,665	9,235
Kansas City	4,500	10,000	3	4	2,980	5,645	9,655	23,480
Topeka	20,000	5,000	1	4	643,883	3,950	667,848	10,750
Wichita	12,350	20,000	4	6	6,485	4,760	30,260	35,610
Minnesota:								
Duluth	4,000	0	1	0	13,200	175,346	29,435	196,579
Minneapolis	170,685	121,965	50	30	84,460	24,655	307,865	210,940
St. Paul	83,520	27,480	15	5	240	11,178	119,641	107,490
Missouri:								
Joplin	0	0	0	0	1,000	5,750	3,900	8,831
Kansas City	115,500	61,900	27	20	39,000	21,700	165,000	126,500
Springfield	11,850	15,550	5	6	5,010	3,125	23,925	21,425
St. Joseph	0	700	0	1	110	10,750	3,180	13,265
St. Louis	151,500	221,000	41	60	68,200	36,680	393,805	432,061
Nebraska:								
Lincoln	9,100	0	2	0	2,390	1,210	17,588	2,710
Omaha	37,200	36,550	8	9	5,300	59,515	45,275	111,986
North Dakota:								
Fargo	0	0	0	0	0	675	4,580	2,425
South Dakota:								
Sioux Falls	5,435	8,750	1	2	7,315	5,310	14,625	23,125
Total	708,590	647,795	181	178	922,228	384,134	2,059,006	1,535,819
Per cent of change		−8.6		−1.7		−58.3		−25.4

South Atlantic States

Delaware:								
Wilmington	$8,000	$62,000	2	14	$276,100	$1,899	$315,711	$104,246
District of Columbia:								
Washington	953,500	586,550	193	92	774,505	456,707	2,004,240	1,307,336
Florida:								
Jacksonville	17,825	14,400	13	9	26,595	12,710	62,710	48,520
Miami	10,650	30,700	9	15	19,220	9,810	55,285	62,486
Orlando	5,500	0	2	0	0	0	10,791	8,835
St. Petersburg	3,000	5,900	3	2	700	1,038,364	11,400	1,049,664
Tampa	7,800	2,100	4	6	4,215	19,400	32,373	44,594
Georgia:								
Atlanta	48,400	40,000	16	14	1,719,406	11,027	1,802,517	105,578
Augusta	3,925	6,750	4	3	2,280	1,400	19,208	29,980
Columbus	2,500	17,750	1	5	1,250	615	7,545	24,945
Macon	300	1,400	1	1	700	50	5,309	32,080
Savannah	480	10,500	1	2	260	2,200	3,565	12,700
Maryland:								
Baltimore	222,000	558,000	50	105	136,900	74,500	803,500	1,052,338
Cumberland	0	1,050	0	2	1,470	303,950	17,871	305,700
Hagerstown	8,000	2,000	2	1	655	1,415	11,855	3,465
North Carolina:								
Asheville	0	0	0	0	255	205	4,020	15,011
Charlotte	35,900	6,000	7	1	3,190	515	45,631	16,790
Durham	1,900	1,900	2	2	0	0	3,525	12,600
Greensboro	3,150	0	3	0	1,745	22,765	12,272	30,165
High Point	0	1,600	0	2	3,975	11,400	4,450	13,000
Raleigh	600	7,730	1	5	785	4,650	1,895	19,479
Wilmington	0	0	0	0	0	4,845	39,000	9,645
Winston-Salem	0	6,600	0	2	965	101,745	21,628	113,924

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

South Atlantic States—Continued

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February 1932
South Carolina:								
Charleston	$3,300	$15,900	4	4	$800	$2,570	$12,531	$25,120
Columbia	4,950	5,800	5	3	1,630	35,690	17,738	62,929
Greenville	9,000	2,100	1	3	0	1,825	19,350	9,685
Spartanburg	0	0	0	0	3,650	2,240	9,852	3,880
Virginia:								
Newport News	9,450	1,400	6	2	2,164	414	16,530	7,829
Norfolk	58,900	79,025	14	22	25,572	15,720	98,812	115,009
Petersburg	0	500	0	1	80	900	1,530	3,400
Portsmouth	17,300	3,000	6	1	575	1,600	21,380	14,640
Richmond	24,300	36,450	7	10	26,528	27,792	75,668	89,694
Roanoke	22,125	19,650	8	4	2,305	11,830	31,580	34,804
West Virginia:								
Charleston	1,500	10,750	1	2	1,580	10,750	13,945	53,897
Clarksburg	0	0	0	0	475	850	2,515	2,390
Huntington	700	0	1	0	2,248	2,375	5,253	4,200
Parkersburg	3,000	2,500	1	1	59,696	1,000	72,291	3,950
Wheeling	13,695	1,800	5	1	10,260	950	24,570	18,320
Total	1,501,650	1,541,805	373	337	3,112,734	2,196,678	5,718,846	4,872,828
Per cent of change		+2.7		−9.7		−29.4		−14.8

South Central States

Alabama:								
Birmingham	$13,960	$7,700	9	7	$6,775	$21,010	$54,012	$58,377
Mobile	5,900	3,150	3	4	4,100	319,795	17,849	336,016
Montgomery	7,900	20,600	8	14	1,035	109,325	23,590	141,845
Arkansas:								
Little Rock	5,500	21,100	2	4	1,775	7,348	18,657	35,811
Kentucky:								
Covington	0	4,250	0	1	610	2,600	7,967	9,525
Louisville	14,500	12,500	5	3	32,800	11,780	85,800	138,040
Newport	0	5,800	0	1	400	0	5,800	7,240
Paducah	0	0	0	0	850	50	850	200
Louisiana:								
Baton Rouge	5,700	21,403	5	11	468	65,803	17,758	99,314
Monroe	800	600	3	2	0	1,200	4,100	7,580
New Orleans	75,043	20,475	14	13	9,046	66,934	145,939	161,601
Shreveport	5,100	11,700	2	7	375	555	20,589	42,999
Mississippi:								
Jackson	19,815	32,912	8	12	0	0	33,915	45,867
Oklahoma:								
Enid	0	0	0	0	3,000	200	4,110	3,685
Oklahoma City	44,700	54,500	12	12	713,435	709,025	798,535	781,850
Okmulgee	0	0	0	0	236,855	600	236,930	600
Tulsa	6,100	21,625	2	6	17,440	7,910	40,546	42,823
Tennessee:								
Chattanooga	15,000	8,300	6	6	27,000	4,200	86,708	26,842
Johnson City	1,000	7,600	1	5	0	0	1,000	7,600
Knoxville	17,340	21,444	5	10	28,560	8,838	48,528	33,412
Memphis	30,550	5,200	12	4	10,660	482,560	106,470	556,530
Nashville	19,950	13,000	12	8	34,375	85,915	95,482	118,510
Texas:								
Amarillo	5,685	18,735	5	14	15,600	6,650	22,985	28,735
Austin	86,010	30,015	43	21	3,392,458	11,286	3,511,636	52,124
Beaumont	7,100	3,950	2	3	1,768	2,800	27,467	22,504
Brownsville	2,000	0	1	0	0	1,840	4,675	2,915
Dallas	84,925	65,100	41	30	28,980	17,152	272,034	132,561
El Paso	0	5,200	0	4	8,480	1,475	19,258	15,744
Ft. Worth	68,884	97,961	29	34	18,815	47,718	118,732	188,890
Galveston	29,865	35,400	13	16	13,109	4,859	58,795	49,634
Houston	186,000	140,600	66	57	119,887	113,300	316,137	268,550
San Angelo	7,350	4,300	4	2	0	600	8,835	5,950
San Antonio	59,191	28,558	35	20	35,692	27,579	112,584	80,132
Waco	23,700	2,000	12	2	48,713	11,577	79,373	26,827
Wichita Falls	0	0	0	0	408,000	50,050	434,700	52,630
Total	849,568	725,678	360	333	5,221,061	2,200,644	6,842,346	3,580,348
Per cent of change		−14.6		−7.5		−57.9		−47.7

TABLE 10.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, JANUARY AND FEBRUARY, 1932—Continued

Mountain and Pacific States

State and city	New residential buildings				New nonresidential buildings (estimated cost)		Total construction, including alterations and repairs (estimated cost)	
	Estimated cost		Families provided for in new dwellings*					
	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932	January, 1932	February, 1932
Arizona:								
Phoenix	$38,000	$18,750	9	7	$1,903	$5,915	$46,718	$29,210
Tucson	10,240	8,500	7	4	1,900	5,881	23,005	23,508
California:								
Alameda	10,400	17,250	2	4	838	1,145	18,822	24,144
Alhambra	31,000	20,300	8	7	725	6,825	39,400	31,675
Bakersfield	7,950	4,900	2	3	89,505	12,500	104,665	28,565
Berkeley	41,900	45,545	13	12	14,715	177,390	79,877	237,042
Fresno	10,150	16,800	4	5	160,585	1,115	196,286	37,717
Glendale	97,250	95,050	25	24	8,225	17,455	115,945	116,780
Huntington Park	9,300	6,200	3	3	400	2,250	12,750	10,150
Long Beach	65,800	95,800	22	43	522,242	524,715	636,332	654,125
Los Angeles	757,735	633,820	257	216	692,632	1,049,654	1,884,671	2,184,345
Oakland	107,150	79,250	28	23	83,770	120,801	242,544	262,220
Pasadena	53,700	87,600	12	20	68,218	3,980	148,536	113,892
Riverside	9,900	14,100	4	5	100,832	38,115	119,473	57,444
Sacramento	60,450	58,650	9	11	10,075	2,965	97,613	90,844
San Diego	98,650	50,627	38	19	44,483	306,065	205,492	400,148
San Francisco	399,450	521,050	103	134	231,966	469,335	730,502	1,162,684
San Jose	32,335	16,850	7	5	215,010	227,660	268,075	260,655
Santa Ana	34,800	0	7	0	20,463	62,580	60,207	65,462
Santa Barbara	2,000	11,066	1	5	1,905	3,305	13,255	31,006
Santa Monica	21,800	42,800	11	13	70	2,165	31,383	48,210
Stockton	28,000	13,700	5	5	4,385	9,080	46,157	27,810
Vallejo	0	0	0	0	680	1,600	6,874	10,117
Colorado:								
Colorado Springs	6,875	8,100	2	4	5,442	1,235	16,162	22,035
Denver	155,000	134,300	29	30	30,800	84,190	297,930	292,275
Pueblo	6,200	8,800	3	3	5,405	1,010	14,875	20,935
Montana:								
Butte	0	0	0	0	950	5,450	1,200	7,955
Great Falls	0	2,000	0	1	750	150	5,885	5,200
New Mexico:								
Albuquerque	12,000	23,000	4	6	5,450	1,380	24,600	35,440
Oregon:								
Portland	46,050	79,350	14	17	201,460	73,940	399,845	260,355
Salem	3,570	7,200	4	2	35	390	10,731	14,469
Utah:								
Ogden	0	0	0	0	0	0	16,500	2,800
Salt Lake City	0	800	0	1	2,325	7,920	25,985	26,339
Washington:								
Bellingham	8,800	2,500	5	2	0	11,075	9,960	14,460
Everett	6,000	0	1	0	260	5,235	15,313	7,620
Seattle	126,550	68,400	46	24	72,520	162,565	285,000	337,600
Spokane	16,000	24,125	5	7	1,350	2,880	23,810	44,275
Tacoma	16,000	5,000	9	2	29,525	11,490	65,710	25,840
Total	2,331,005	2,222,183	699	667	2,631,799	3,421,406	6,342,088	7,025,351
Per cent of change		−4.7		−4.6		+30.0		+10.8

Hawaii

Honolulu	$111,754	$94,929	65	56	$232,200	$43,652	$358,279	$170,172
Per cent of change		−15.1		−13.8		−81.2		−52.5

Building Permits in Principal Cities in 1931, by Types of Buildings

Introduction and Summary

REPORTS of building permits issued were received by the Bureau of Labor Statistics from 359 cities of the United States having a population of 25,000 or over, for the calendar year 1931. It was necessary to send agents of the bureau to only three of these cities to compile reports from the records of the local building officials; all of the other 356 cities having replied to questionnaires sent by mail. In collecting reports for the year 1922, agents of the bureau had to visit 33⅓ per cent of the cities to compile data for that year. This proportion was reduced to 6.1 per cent in 1928, to 2.6 per cent in 1929, to 1.9 per cent in 1930, and to 0.8 of 1 per cent in 1931. Thus it will be seen that local building officials are now fully alive to the value of these figures and are lending their hearty assistance to the work of the bureau. The States of Illinois, Massachusetts, New York, and New Jersey, through their departments of labor, are cooperating with the United States Department of Labor in the collection of these data.

In studying these tables it should be borne in mind that the figures refer to the cost of the buildings only and to buildings within the corporate limits of the cities enumerated. No land costs are included.

Table 1 shows the total number of new buildings and the estimated cost of the different kinds of new buildings for which permits were issued in these 359 cities from which reports were received for the year 1931, the per cent that each kind forms of the total number, the per cent that each kind forms of the total cost, and the average cost per building.

Permits were issued during the calendar year 1931 for 174,060 new buildings in these 359 cities. Of this number, 63,363, or 36.4 per cent, were residential buildings and 110,697, or 63.6 per cent, were nonresidential buildings. One-family dwellings were the most numerous class of residential buildings, accounting for 31.5 per cent of the total number of new buildings. No other class of residential buildings accounted for as much as 5 per cent of the total number of new buildings for which permits were issued.

Private garages were by far the most numerous class of nonresidential buildings. Permits were issued in the 359 cities for 81,289 private garages; this was 46.7 per cent of the total number of new buildings for which permits were issued during 1931. There were 106,086 families provided for in new dwellings according to permits issued in 1931. This would indicate that 76.6 per cent as many private garages were built as family dwelling units provided. Of the more important classes of nonresidential buildings, stores and warehouses were the most numerous.

The total estimated cost of all new buildings for which permits were issued in these 359 cities during 1931, was $1,121,611,242. Of this amount, 40.8 per cent was to be expended for residential buildings and 59.2 per cent for nonresidential buildings. One-family dwellings accounted for 23.2 per cent of the total indicated expenditures for all new buildings. This was the largest percentage accounted for in any class of buildings, either residential or nonresidential. Apartment houses and apartment houses with stores accounted for

12.6 per cent of the total indicated expenditures. Public buildings accounted for a larger percentage of the total cost than any other class of nonresidential buildings, amounting to 11.5 per cent of the total expenditures for new buildings in these cities. However, grouping under public construction, institutions, public buildings, public works, schools, and libraries, all of which classes of buildings are erected either wholly or partially from public funds, it is seen that during 1931 the expenditures for buildings of this class totaled $345,663,446, or 30.7 per cent of the total expenditures for new buildings.

TABLE 1.—NUMBER AND COST OF NEW BUILDINGS AS STATED BY PERMITS ISSUED IN 359 CITIES, 1931, BY KIND OF BUILDING

Kind of building	New buildings for which permits were issued				
	Number	Per cent	Estimated cost		
			Amount	Per cent	Average per building
Residential buildings					
1-family dwellings	54,844	31.5	$260,222,319	23.2	$4,745
2-family dwellings	5,595	3.2	38,822,788	3.5	6,939
1-family and 2-family dwellings with stores combined	535	.3	3,925,149	.3	7,337
Multifamily dwellings	2,171	1.2	132,868,574	11.8	61,202
Multifamily dwellings with stores combined	98	.1	9,352,626	.8	95,435
Hotels	19	(1)	2,044,824	.2	107,622
Lodging houses	10	(1)	335,800	(1)	33,580
All other	91	.1	9,829,934	.9	108,021
Total	63,363	36.4	457,402,014	40.8	7,219
Nonresidential buildings					
Amusement buildings	551	.3	24,079,518	2.1	43,701
Churches	497	.3	19,080,885	1.7	38,392
Factories and work shops	1,552	.9	49,275,048	4.4	31,749
Public garages	1,090	.6	11,111,602	1.0	10,194
Private garages	81,289	46.7	24,051,651	2.1	296
Service stations	3,896	2.2	10,517,862	.9	2,700
Institutions	247	.1	58,426,078	5.2	236,543
Office buildings	281	.2	107,214,668	9.6	381,547
Public buildings	409	2	129,384,129	11.5	316,343
Public works and utilities	493	3	44,231,932	3.9	89,720
Schools and libraries	570	.3	113,621,307	10.1	199,336
Sheds	9,691	5.6	2,895,980	.3	299
Stables and barns	268	.2	487,579	(1)	1,819
Stores and warehouses	7,149	4.1	67,014,016	6.0	9,374
All other	2,714	1.6	2,816,973	.3	1,038
Total	110,697	63.6	664,209,228	59.2	6,000
Grand total	174,060	100.0	1,121,611,242	100.0	6,444

[1] Less than one-tenth of 1 per cent.

The average cost of all the new buildings for which permits were issued during the year 1931 was $6,444. Residential buildings averaged $7,219 per building and nonresidential buildings $6,000 per building. The low average for nonresidential buildings is accounted for by the inclusion of a large number of private garages and sheds. Excluding these two classes of buildings, the average cost of the remaining nonresidential buildings was $32,320.

The most expensive class of residential buildings for which permits were issued during 1931, fell under the heading "all other residential." This group includes such buildings as college dormitories, Y. M. C. A.

and Y. W. C. A. buildings with bedrooms, clubs with bedrooms, etc. Hotels were the next most expensive class of residential buildings.

Office buildings averaged higher in cost per building than any class of nonresidential buildings. Contracts were awarded during 1931 for 281 office buildings, at an average cost of $381,547 per building. Public buildings averaged over $300,000 per building, institutions over $200,000, and schools and libraries over $199,000 per building.

Building Trend, 1930 and 1931

TABLE 2 shows the number and cost of the different kinds of buildings for which permits were issued in 311 identical cities, for the years 1930 and 1931, and the per cent of increase or decrease in 1931 as compared with 1930.

TABLE 2.—NUMBER AND COST OF NEW BUILDINGS AND OF ALTERATIONS AND REPAIRS FOR WHICH PERMITS WERE ISSUED IN 311 IDENTICAL CITIES DURING 1930 AND 1931, BY KIND OF BUILDING

Kind of building	Buildings for which permits were issued				Per cent of increase (+) or decrease (−) in 1931 compared with 1930	
	1930		1931			
	Number	Cost	Number	Cost	Number	Cost
Residential buildings						
1-family dwellings	61,656	$306,185,802	51,638	$247,064,922	−16.2	−19.3
2-family dwellings	7,187	53,985,588	5,409	37,780,768	−24.7	−30.0
1-family and 2-family dwellings with stores combined	874	6,985,654	505	3,782,389	−42.2	−45.9
Multifamily dwellings	3,019	193,174,494	2,117	131,977,483	−29.9	−31.7
Multifamily dwellings with stores combined	205	12,249,912	93	9,250,076	−54.6	−24.5
Hotels	79	24,777,624	18	1,892,824	−77.2	−92.4
Lodging houses	11	219,000	10	335,800	−9.1	+53.3
All other	170	28,322,912	87	9,722,314	−48.8	−65.7
Total residential buildings	73,201	625,900,986	59,877	441,806,576	−18.2	−29.4
Nonresidential buildings						
Amusement buildings	1,450	43,375,341	521	23,443,154	−64.1	−46.0
Churches	698	29,575,418	471	18,554,949	−32.5	−37.3
Factories and workshops	2,679	109,491,239	1,451	48,541,454	−45.8	−55.7
Public garages	1,948	26,827,939	1,068	11,038,802	−45.2	−58.9
Private garages	97,458	33,723,157	77,937	23,235,894	−20.0	−31.1
Service stations	5,778	21,869,134	3,713	9,952,872	−35.7	−54.5
Institutions	272	58,258,336	232	56,328,741	−14.7	−3.3
Office buildings	703	160,741,404	271	106,679,271	−61.5	−33.6
Public buildings	434	85,820,846	391	127,548,292	−9.9	+48.6
Public works and utilities	603	45,237,457	437	42,144,134	−27.5	−6.8
Schools and libraries	754	126,908,372	544	110,798,559	−27.9	−12.7
Sheds	10,725	3,864,937	9,228	2,779,543	−14.0	−28.1
Stables and barns	267	438,425	254	471,584	−4.9	+7.6
Stores and warehouses	8,916	127,832,430	6,624	64,342,837	−25.7	−49.7
All other	4,255	5,913,967	2,598	2,727,498	−38.9	−53.9
Total nonresidential buildings	136,940	879,878,402	105,740	648,587,584	−22.8	−26.3
Total new buildings	210,141	1,505,779,388	165,617	1,090,394,160	−21.2	−27.6
Additions, alterations, and repairs	257,289	260,365,278	231,271	197,068,892	−10.1	−24.3
Grand total, all buildings	467,430	1,766,144,666	396,888	1,287,463,052	−15.1	−27.1

In the 311 identical cities from which reports were received for both years, 1930 and 1931, permits were issued for 396,888 building operations of all kinds during the year 1931. This was 15.1 per cent less than the total number of building operations for which permits were issued in these cities during 1930. The total number of new buildings decreased 21.2 per cent from 1930 to 1931, while the number of additions, alterations, and repairs decreased 10.1 per cent.

All classes of residential buildings decreased in number, comparing 1931 with the previous year, the average decrease being 18.2 per cent. The decreases for this class of building ranged from 9.1 per cent in the case of lodging houses to 77.2 per cent in the case of hotels.

Nonresidential buildings as a group decreased 22.8 per cent. All classes of nonresidential buildings also showed decreases, the lowest, 4.9 per cent, occurring in stables and barns, and the highest, 64.1 per cent, in amusement buildings.

Total indicated expenditures for all classes of building construction decreased 27.1 per cent from 1930 to 1931. The estimated cost of total new buildings decreased 27.6 per cent and additions, alterations, and repairs decreased 24.3 per cent.

Expenditures for all classes of residential buildings showed decreases, except in the case of lodging houses, the indicated expenditure for which increased 53.3 per cent. The total estimated cost of all residential buildings for which permits were issued in these 311 cities fell 29.4 per cent, the decreases in the various classes ranging from 19.3 per cent in the case of 1-family dwellings to 92.4 per cent in the case of hotels.

Two classes of nonresidential buildings—public buildings and stables and barns—showed increases in indicated expenditures. The increase in expenditures for public buildings was 48.6 per cent. Nonresidential buildings as a whole showed a decrease in estimated cost of 26.3 per cent in 1930. Indicated expenditures for institutional buildings decreased only 3.3 per cent. while those of public garages decreased 58.9 per cent.

Families Provided for, 1930 and 1931

TABLE 3 shows the number and per cent of families provided for by each of the different kinds of dwellings for which permits were issued in 311 identical cities during the calendar years 1930 and 1931.

TABLE 3.—NUMBER AND PER CENT OF FAMILIES TO BE HOUSED IN NEW DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 311 IDENTICAL CITIES, 1930 AND 1931, BY KIND OF DWELLING

Kind of dwelling	Number of new buildings for which permits were issued		Families provided for			
			Number		Per cent	
	1930	1931	1930	1931	1930	1931
1-family dwellings	61,656	51,638	61,656	51,638	47.2	50.6
2-family dwellings	7,187	5,409	14,374	10,818	11.0	10.6
1-family and 2-family dwellings with stores combined	874	505	1,195	716	.9	.7
Multifamily dwellings	3,019	2,117	50,299	36,738	38.5	36.0
Multifamily dwellings with stores combined	205	93	2,979	2,149	2.3	2.1
Total	72,941	59,762	130,503	102,059	100.0	100.0

During 1931, permits were issued in 311 cities for 59,762 new dwelling houses providing 102,059 family dwelling units. Of the total number of family dwelling units, 50.6 were to be in 1-family dwellings, 10.6 per cent in 2-family dwellings, and 38.1 per cent in the two classes of apartment houses. There was a marked decrease in the total number of families provided for in all classes of dwellings in 1931 as compared with 1930.

Comparing 1931 with 1930, the percentage of families to be provided for in 1-family dwellings showed an increase, while the percentage to be provided for in both 2-family dwellings and apartment houses showed a decrease.

During 1931 permits were issued for 2,210 apartment houses to house 38,887 families, or 17.6 families per building. The number of families housed per building in the apartment houses for which permits were issued during 1930 was 16.5.

Number of Buildings, by Cities

TABLE 4 shows for 1930 and 1931 the number of buildings for which permits were issued in each of the 311 identical cities, together with the number of families provided for, and the ratio of families provided for per 10,000 of population in these cities.

During the calendar year 1931 there were 102,059 families provided with dwelling places in new buildings. This was at the rate of 21.2 families to each 10,000 of population. During 1930, family dwelling units were provided for 130,503 families, or at the rate of 27.1 to each 10,000 of population. All geographic divisions except the South Atlantic showed decreases in the number of families provided for. The South Atlantic division provided for 13.6 more families during 1931 that during 1930.

All geographic divisions showed decreases in the total number of buildings for which permits were issued, comparing 1931 with 1930. The West North Central was the only geographic division showing an increase in the number of new residential buildings. Decreases in new nonresidential buildings were registered in all geographic divisions.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931

New England States

State and city	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Connecticut:											
Bridgeport	147,100	353	449	24.1	30.5	233	222	414	369	1,140	938
Greenwich	34,500	203	104	61.3	30.1	161	99	147	148	506	477
Hartford	167,200	61	116	3.7	6.9	47	78	324	265	1,339	1,331
Meriden	38,900	64	45	16.6	11.6	64	44	182	125	660	532
New Britain	69,200	42	27	6.2	3.9	39	24	133	93	592	535
New Haven	162,700	238	166	14.6	10.2	138	144	414	303	1,193	1,003
New London	30,100	70	56	23.6	18.6	65	43	138	74	308	195
Norwalk	37,000	165	160	45.8	43.2	159	157	217	165	693	633
Stamford	47,700	109	108	23.5	22.6	83	87	204	151	490	456
Waterbury	100,900	101	80	10.1	7.9	87	67	250	193	541	438
Maine:											
Bangor	29,100	46	62	16.0	21.3	46	61	73	100	145	183
Lewiston	35,300	31	39	8.9	11.0	25	29	35	31	72	79
Portland	71,000	110	93	15.5	13.1	90	90	263	237	1,173	1,117
Massachusetts:											
Boston [a]	785,200	1,415	1,796	18.1	22.9	832	788	1,219	1,170	7,496	7,604
Brockton	[1] 63,797	69	76	10.8	11.9	67	73	274	211	772	614
Brookline	48,700	231	93	48.6	19.1	101	81	98	83	380	318
Cambridge	114,100	159	137	14.0	12.0	78	42	200	142	773	650
Chelsea	46,100	6	16	1.3	3.5	4	15	35	22	244	275
Chicopee	44,900	57	31	13.0	6.9	48	31	174	123	315	235
Everett	49,400	53	45	11.0	9.1	33	31	123	95	384	400
Fall River	[1] 115,274	33	9	2.9	0.8	31	8	246	198	561	537
Fitchburg	[1] 40,692	22	18	5.4	4.4	22	18	88	69	180	146
Haverhill	[1] 48,710	38	22	7.8	4.5	32	21	126	101	294	281
Holyoke	[1] 56,537	37	24	6.5	4.2	27	24	100	81	250	243
Lawrence	85,068	19	14	2.2	1.6	12	10	98	130	236	350
Lowell	[1] 100,234	42	41	4.2	4.1	42	42	177	153	663	537
Lynn	102,700	103	122	10.1	11.9	95	96	310	231	1,041	802
Malden	59,100	99	147	17.1	24.9	69	95	154	131	475	495
Medford	62,200	249	315	41.7	50.6	208	234	222	227	625	608
New Bedford	[1] 112,597	15	14	1.3	1.2	15	14	237	232	520	542
Newton	67,600	346	368	53.0	54.0	329	301	313	313	1,048	915
Pittsfield	50,600	185	157	37.2	31.0	173	150	286	266	709	675
Quincy	74,900	288	224	40.0	29.9	202	168	497	394	1,438	1,312
Revere	36,500	58	32	16.3	8.8	56	32	103	82	401	306
Salem	43,500	56	68	12.9	15.6	46	51	99	89	615	584
Somerville	105,200	49	51	4.7	4.8	26	29	134	102	555	559
Springfield	152,400	284	192	18.9	12.6	221	179	488	375	1,062	827
Taunton	37,400	27	17	7.2	4.5	26	16	142	114	464	621
Waltham	40,300	124	84	31.6	20.8	91	72	168	147	420	350
Watertown	36,600	84	98	24.1	26.8	62	85	111	127	290	330
Worcester	197,200	294	225	15.1	11.4	248	218	496	343	1,663	1,304
New Hampshire:											
Manchester	76,834	86	68	11.2	8.9	82	66	242	200	1,095	1,045
Rhode Island:											
Central Falls	26,100	22	11	8.5	4.2	11	7	36	46	117	127
Cranston	44,600	273	227	63.6	50.9	219	223	368	379	727	769
East Providence	31,000	133	92	44.3	29.7	124	88	252	226	964	942
Newport	[1] 27,612	45	45	16.3	16.3	44	42	150	122	370	332
Pawtucket	78,700	149	75	19.3	9.5	136	74	273	211	597	525
Providence	254,900	446	282	17.6	11.1	315	215	896	720	4,835	4,729
Woonsocket	50,100	22	16	4.5	3.2	21	9	117	91	294	239
Total	4,338,055	7,211	6,757	16.6	15.6	5,385	4,793	11,846	10,000	41,725	39,135
Per cent of change			−6.3				−11.0		−15.6		−6.2

Middle Atlantic States

New Jersey:											
Atlantic City	68,100	29	50	4.4	7.3	23	20	88	52	593	663
Bayonne	90,500	104	16	11.7	1.8	22	6	62	59	226	240
Bloomfield	40,000	344	213	90.4	53.3	213	205	306	229	589	495
Camden	119,000	159	52	13.4	4.4	79	37	232	133	832	609
Clifton	49,400	247	208	52.7	42.1	223	199	359	278	740	652
East Orange	70,100	85	46	12.5	6.6	32	28	214	173	678	644
Elizabeth	116,900	222	157	19.4	13.4	95	65	336	217	433	292

[a] Applications filed.

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

Middle Atlantic States—Continued

State and city	Population 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
New Jersey—Contd.											
Hoboken	[1] 59,261	4	40	0.7	6.7	2	1	20	8	272	289
Irvington	60,500	102	99	18.0	16.4	36	48	254	208	445	380
Jersey City	319,000	238	183	7.5	5.7	51	55	268	196	835	725
Kearny	42,400	103	67	25.3	15.8	61	40	140	109	295	227
Montclair	43,600	69	99	16.4	22.7	67	97	168	125	451	385
Newark	445,700	750	357	17.0	8.0	163	163	757	562	1,882	1,593
New Brunswick	34,800	21	16	6.1	4.6	18	15	57	54	199	195
Orange	35,700	96	9	27.1	2.5	30	9	100	65	428	283
Passaic	[1] 62,959	24	12	3.8	1.9	19	9	119	84	709	629
Paterson	138,800	139	99	10.0	7.1	89	80	295	214	1,785	1,477
Perth Amboy	43,700	32	20	7.4	4.6	25	14	118	87	286	197
Plainfield	35,200	81	92	23.5	26.1	78	92	202	150	546	450
Trenton	123,900	38	50	3.1	4.0	26	29	242	219	580	565
Union City	[1] 58,659	41	57	7.0	9.7	13	5	47	45	497	534
West New York	38,000	2	14	0.5	3.7	3	2	23	16	186	192
New York:											
Albany	129,100	311	217	24.4	16.8	185	174	217	175	1,612	1,229
Amsterdam	35,000	26	17	7.5	4.9	25	15	92	56	135	97
Auburn	36,700	39	28	10.6	7.6	38	26	187	140	342	276
Binghamton	77,900	161	90	21.0	11.6	74	65	471	378	2,814	2,590
Buffalo	581,200	1,072	1,029	18.7	17.7	484	447	1,860	1,647	3,763	3,568
Elmira	47,600	40	32	8.4	6.7	40	31	244	168	708	544
Jamestown	45,900	93	36	20.6	7.8	87	36	161	128	692	525
Kingston	28,300	41	52	14.6	18.4	40	49	162	147	547	547
Mount Vernon	63,800	481	303	78.2	47.5	188	127	112	93	596	516
Newburgh	31,400	23	18	7.4	5.7	22	18	66	64	175	161
New Rochelle	56,200	191	228	35.4	40.6	178	149	141	119	609	485
New York City—											
The Bronx [a]	1,330,300	7,012	8,537			906	1,211	806	610	7,507	7,183
Brooklyn [a]	2,626,600	9,275	10,837			1,921	1,889	3,438	3,243	11,503	11,396
Manhattan [a]	1,816,500	8,669	2,585	52.2	50.4	105	44	454	188	3,396	3,202
Queens [a]	1,153,500	10,495	12,716			5,376	6,038	5,921	6,225	17,583	18,899
Richmond [a]	163,400	731	1,061			545	540	935	744	2,539	2,217
Niagara Falls	78,100	218	164	28.9	21.0	187	131	442	289	1,640	1,305
Poughkeepsie	40,600	48	66	11.9	16.3	42	62	76	54	223	204
Rochester	332,000	262	166	8.0	5.0	230	170	1,132	977	2,490	2,291
Schenectady	96,200	169	90	17.7	9.4	161	86	490	298	1,390	1,050
Syracuse	213,100	432	260	20.6	12.2	373	240	662	484	1,532	1,268
Troy	72,900	99	121	13.6	16.6	97	119	144	138	713	556
Utica	102,300	90	82	8.8	8.0	89	81	259	128	552	326
Watertown	32,300	14	22	4.3	6.8	14	22	122	112	612	495
White Plains	37,600	297	276	82.9	73.4	152	127	153	90	471	350
Yonkers	138,800	1,042	1,021	77.4	73.6	363	544	462	381	1,134	1,265
Pennsylvania:											
Allentown	97,300	97	45	10.5	4.6	97	44	307	194	671	428
Altoona	82,700	75	35	9.1	4.2	72	35	563	405	1,481	1,016
Bethlehem	58,300	69	35	11.9	6.0	69	35	202	79	381	177
Butler	[1] 23,568	21	4	8.9	1.7	20	4	33	18	85	53
Chester	59,300	34	19	5.7	3.2	34	16	117	97	252	146
Easton	34,500	15	6	4.4	1.7	14	6	64	63	321	217
Erie	117,800	209	221	18.0	18.8	193	212	618	483	1,480	1,220
Harrisburg	80,700	77	55	9.6	6.8	63	53	250	147	676	482
Hazleton	37,300	27	22	7.3	5.9	16	17	69	74	146	166
Johnstown	[1] 66,993	18	16	2.7	2.4	17	16	159	121	412	327
Lancaster	60,800	43	28	7.2	4.6	44	28	178	133	520	410
Lebanon	26,000	12	29	4.7	11.2	12	26	144	45	249	107
McKeesport	55,600	83	54	15.2	9.7	74	50	187	116	1,231	815
New Castle	49,100	49	30	10.1	6.1	49	30	191	166	340	284
Norristown	36,300	80	36	22.3	9.9	68	28	139	125	518	420
Philadelphia	1,966,500	1,744	1,028	8.9	5.2	1,285	881	1,502	1,026	6,430	5,491
Pittsburgh	676,000	1,349	919	20.1	13.6	1,006	688	1,383	883	5,115	4,059
Reading	111,600	119	49	10.7	4.4	95	49	290	163	2,417	1,543
Scranton	144,100	49	63	3.4	4.4	45	55	339	270	826	744
Wilkes-Barre	87,000	39	37	4.5	4.3	24	19	233	166	774	696
Wilkinsburg	30,200	79	31	26.7	10.3	57	24	97	66	330	266
Williamsport	46,400	36	20	7.9	4.3	30	20	406	302	890	1,347
York	56,200	56	45	10.1	8.0	56	45	144	183	830	891
Total	15,467,740	48,641	44,837	31.4	29.0	16,730	16,041	31,231	25,684	105,140	95,566
Per cent of change			−7.8				−4.1		−17.8		−9.1

[a] Applications filed.

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

East North Central States

State and city	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Illinois:											
Alton	30,800	58	22	19.2	7.1	59	23	54	38	367	263
Aurora	47,200	82	35	17.6	7.4	82	35	195	154	692	476
Belleville	28,900	107	81	37.6	28.0	106	80	95	49	247	165
Bloomington	31,200	68	26	22.0	8.3	62	26	52	25	130	61
Chicago	3,458,100	2,741	966	8.1	2.8	1,419	747	4,020	2,107	10,380	6,619
Cicero	69,200	57	23	8.6	3.3	36	20	119	68	241	142
Danville	37,100	47	18	12.8	4.9	47	18	30	29	139	135
Decatur	58,600	79	45	13.7	7.7	70	38	251	158	447	252
East St. Louis	75,300	207	140	28.0	18.6	190	129	232	203	566	468
Elgin	36,700	72	44	20.0	12.0	72	44	216	114	625	460
Evanston	66,500	63	36	9.9	5.4	52	35	185	114	513	354
Joliet	44,700	88	50	20.5	11.2	75	42	83	54	437	332
Moline	32,400	112	61	34.7	18.8	108	61	205	110	934	615
Oak Park	66,900	55	27	8.6	4.0	28	25	165	111	315	240
Peoria	108,400	408	259	38.9	23.9	354	236	457	310	1,150	807
Quincy	39,300	68	24	17.3	6.1	66	24	125	102	240	169
Rockford	88,200	341	73	39.7	8.3	225	62	362	140	1,039	583
Rock Island	38,300	132	52	34.8	13.6	126	52	202	127	1,068	637
Springfield	73,300	151	156	21.0	21.3	130	134	285	265	964	850
Indiana:											
Anderson	40,700	51	43	12.8	10.6	52	46	67	86	155	676
East Chicago	57,100	37	3	6.8	.5	25	2	120	77	367	215
Elkhart	33,400	43	16	13.1	4.8	42	16	194	123	608	460
Evansville	104,300	174	97	17.0	9.3	173	97	284	310	1,639	1,055
Fort Wayne	118,600	313	155	27.2	13.1	288	155	602	423	1,351	1,311
Gary	105,900	131	56	13.0	5.3	119	51	298	118	743	340
Hammond	67,800	152	40	23.5	5.9	137	39	295	181	704	345
Indianapolis	369,800	615	399	17.0	10.8	506	352	2,081	978	4,919	3,229
Kokomo	33,100	17	4	5.2	1.2	17	4	144	106	383	240
Marion	24,600	18	12	7.3	4.9	15	12	89	64	380	326
Muncie	47,000	47	34	10.1	7.2	44	34	261	209	1,216	941
Richmond	33,000	76	25	23.4	7.6	76	25	96	49	337	239
South Bend	108,100	193	54	18.5	5.0	191	54	592	398	1,760	1,074
Terre Haute	[1] 62,810	50	18	8.0	2.9	50	18	337	178	879	675
Michigan:											
Battle Creek	44,300	72	27	16.5	6.1	66	27	229	206	465	373
Bay City	[1] 47,355	54	57	11.4	12.0	55	57	197	183	1,054	817
Detroit	1,653,100	4,084	2,135	26.0	12.9	2,980	1,873	6,475	4,136	15,313	10,082
Flint	164,100	360	128	23.0	7.8	332	126	896	547	3,104	2,103
Grand Rapids	171,700	231	113	13.7	6.6	214	106	851	579	2,640	1,664
Hamtramck	57,200	21	2	3.7	.3	10	2	80	44	322	228
Highland Park	53,700	5	1	.9	.2	5	1	116	43	235	142
Jackson	56,000	61	17	11.1	3.0	60	17	287	201	736	506
Kalamazoo	55,400	102	65	18.6	11.7	96	63	209	162	973	742
Lansing	80,800	137	43	17.5	5.3	127	43	330	222	722	470
Muskegon	48,000	81	28	19.6	5.8	81	28	225	123	777	359
Pontiac	[1] 67,800	50	6	7.7	.9	50	3	263	265	572	444
Port Huron	32,000	32	47	10.2	14.7	32	47	28	24	89	95
Saginaw	82,600	193	58	23.9	7.0	129	56	395	303	1,054	825
Ohio:											
Akron	263,200	372	105	14.6	4.0	326	101	1,301	803	2,421	1,506
Ashtabula	23,300	29	17	12.4	7.3	29	15	120	93	302	232
Canton	106,800	95	21	9.1	2.0	90	18	404	287	930	627
Cincinnati	457,300	1,693	1,235	37.5	27.0	1,102	885	1,443	1,148	6,667	5,395
Cleveland	911,900	1,176	511	13.1	5.6	811	440	2,692	1,857	7,637	6,645
Columbus	295,600	575	300	19.8	10.1	481	219	1,203	800	2,594	1,738
Dayton	231,700	213	173	10.6	7.5	165	151	720	567	1,697	1,396
East Cleveland	41,200	56	1	14.1	.2	56	1	74	46	213	139
Hamilton	53,700	81	23	15.5	4.3	81	23	199	139	502	325
Lakewood	74,000	248	88	35.2	11.9	64	31	269	211	456	391
Lima	42,400	11	3	2.6	.7	8	3	139	73	383	237
Lorain	45,400	83	30	18.6	6.6	83	30	185	108	351	216
Mansfield	34,100	97	81	29.0	23.8	82	81	201	146	444	372
Marion	31,500	14	1	4.5	.3	14	1	210	57	288	112
Newark	30,700	29	20	9.5	6.5	29	20	81	59	162	94
Portsmouth	43,500	31	2	7.3	.5	32	2	94	64	250	149
Springfield	69,700	91	40	13.2	5.7	83	40	297	181	651	428
Steubenville	36,100	68	28	19.2	7.8	63	26	93	42	246	134

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

East North Central States—Continued

State and city	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Ohio—Continued.											
Toledo	297,100	372	135	12.8	4.5	278	128	1,254	853	2,637	1,822
Warren	42,800	93	30	22.6	7.0	90	30	243	142	831	603
Youngstown	172,900	163	84	9.6	4.9	151	81	542	331	1,029	768
Zanesville	36,700	39	20	10.7	5.4	39	20	61	38	142	90
Wisconsin:											
Fond du Lac	26,800	37	42	14.0	15.7	37	42	143	105	325	273
Green Bay	39,800	113	141	30.2	35.4	109	101	218	190	550	515
Kenosha	51,300	78	20	15.5	3.9	51	20	213	134	522	387
Madison	60,000	179	135	31.0	22.5	144	119	296	209	845	685
Milwaukee	592,600	1,729	929	29.9	15.7	741	560	1,944	1,412	4,939	3,892
Oshkosh	41,000	60	52	15.0	12.7	60	52	158	138	427	346
Racine	68,400	174	47	25.8	6.9	103	41	304	146	723	333
Sheboygan	40,200	98	76	25.0	18.9	95	69	211	145	876	777
Superior	[1] 36,113	47	23	13.0	6.4	42	23	165	150	380	313
Total	12,549,178	20,480	10,234	16.3	8.2	14,818	8,558	38,851	25,290	104,411	74,544
Per cent of change			−50.0				−42.2		−34.9		−28.6

West North Central States

Iowa:											
Burlington	27,100	18	21	6.7	7.7	19	21	98	70	182	154
Cedar Rapids	56,900	91	139	16.2	24.4	77	134	383	422	1,227	1,177
Council Bluffs	42,900	32	41	7.6	9.6	32	41	97	70	257	208
Davenport	61,100	168	128	27.7	20.9	145	116	346	289	1,557	1,493
Des Moines	144,500	225	323	15.8	22.4	203	245	585	619	1,113	1,171
Dubuque	42,000	62	56	14.9	13.3	59	50	114	112	507	528
Ottumwa	28,600	48	61	17.1	21.3	48	61	35	42	151	188
Sioux City	80,200	179	222	22.6	27.7	157	178	394	356	705	668
Waterloo	47,400	137	111	29.7	23.4	138	112	355	257	704	534
Kansas:											
Hutchinson	27,500	105	62	38.8	22.5	94	61	174	94	412	300
Kansas City	122,900	187	127	15.3	10.3	175	124	149	215	673	596
Topeka	65,200	92	81	14.3	12.4	90	75	378	319	684	591
Wichita	115,800	736	304	66.2	26.3	533	258	490	330	1,762	1,132
Minnesota:											
Duluth	10,800	82	95	8.1	9.3	66	95	356	354	1,390	1,472
Minneapolis	474,000	1,355	1,265	29.2	26.7	882	1,063	1,922	1,849	5,932	5,861
St. Paul	276,100	402	397	14.8	14.4	321	363	1,317	1,440	3,780	3,959
Missouri:											
Joplin	33,600	36	28	10.8	8.3	36	21	58	50	232	236
Kansas City	408,900	864	423	21.6	10.3	526	395	500	624	1,503	1,396
Springfield	58,900	116	94	20.2	16.0	116	94	134	98	426	347
St. Joseph	81,300	96	49	11.9	6.0	74	49	182	183	470	453
St. Louis	827,900	1,618	1,491	19.7	18.0	1,004	1,114	3,030	2,401	8,120	6,754
Nebraska:											
Lincoln	81,300	98	114	12.9	14.0	97	113	330	325	609	627
Omaha	216,700	208	334	9.7	15.4	171	298	447	440	854	1,017
South Dakota:											
Sioux Falls	34,400	255	232	76.4	67.4	163	210	176	120	450	405
Total	3,457,000	7,210	6,198	20.9	17.9	5,226	5,291	12,050	11,079	33,700	31,267
Per cent of change			−14.0				+1.2		−8.1		−7.2

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

South Atlantic States

State and city	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Delaware:											
Wilmington	[1] 106,597	367	217	34.4	20.4	308	190	520	361	1,407	1,055
District of Columbia:											
Washington	491,000	1,962	3,606	40.3	73.4	1,037	1,566	1,372	1,570	4,605	5,819
Florida:											
Jacksonville	131,900	186	160	14.4	12.1	178	155	373	388	2,103	2,288
Miami	112,500	114	167	10.3	14.8	114	167	570	482	3,032	2,970
St. Petersburg	41,900	73	67	18.1	16.0	74	66	159	139	635	654
Tampa	105,000	91	65	9.0	6.2	91	66	320	350	2,337	2,642
Georgia:											
Atlanta	277,600	714	423	26.4	15.2	455	322	744	765	3,043	3,239
Augusta	61,300	124	77	20.5	12.6	121	77	104	99	989	964
Columbus	43,400	91	36	21.1	8.3	84	36	62	45	415	420
Macon	53,900	45	41	8.4	7.6	45	41	60	39	674	501
Savannah	[1] 85,024	94	94	11.1	11.1	84	88	42	58	187	276
Maryland:											
Baltimore	813,500	1,484	1,953	18.4	24.0	1,442	1,648	2,172	2,284	16,943	15,680
Cumberland	38,700	47	24	12.5	6.2	43	23	74	68	190	145
Hagerstown	31,200	43	33	13.9	10.6	41	28	156	103	249	171
North Carolina:											
Asheville	51,800	23	18	4.6	3.5	23	15	124	62	383	267
Charlotte	83,900	317	203	38.3	24.2	214	133	157	106	824	641
Durham	54,800	114	71	21.9	13.0	114	71	19	28	233	191
Greensboro	55,400	61	32	11.4	5.8	60	32	91	105	471	511
Wilmington	[1] 32,270	52	42	16.1	13.0	52	42	53	57	211	320
Winston-Salem	77,600	130	53	17.3	6.8	94	43	314	168	1,217	1,027
South Carolina:											
Charleston	[1] 62,265	56	49	9.0	7.9	56	49	54	37	438	400
Columbia	50,900	152	177	29.5	34.8	133	126	89	107	535	539
Greenville	29,900	72	72	24.7	24.1	63	66	94	50	445	326
Virginia:											
Lynchburg	41,400	114	101	28.0	24.4	85	81	114	71	451	399
Newport News	[1] 34,417	91	61	26.4	17.7	92	58	358	276	1,738	1,494
Norfolk	[1] 129,710	220	262	17.0	20.2	179	212	426	468	1,092	1,142
Petersburg	[1] 28,564	37	18	13.0	6.3	36	16	41	19	131	85
Portsmouth	[1] 45,704	71	45	15.5	9.8	54	43	112	94	421	389
Richmond	184,300	227	191	12.4	10.4	191	178	600	497	1,668	1,543
Roanoke	71,200	101	67	14.6	9.4	76	61	178	146	499	422
West Virginia:											
Charleston	62,600	217	109	35.9	17.4	147	86	134	102	456	325
Clarksburg	29,000	18	36	6.2	12.4	17	24	114	87	256	219
Huntington	78,100	56	30	7.4	3.8	47	28	124	139	201	236
Wheeling	62,300	45	44	7.3	7.1	43	32	144	135	528	421
Total	3,659,651	7,609	8,644	20.8	23.6	5,893	5,869	10,077	9,505	49,007	47,741
Per cent of change			+13.6				−0.4		−5.7		−2.6

South Central States

Alabama:											
Birmingham	269,300	166	94	6.4	3.5	153	91	445	313	2,542	1,716
Mobile	68,900	191	102	28.0	14.8	191	100	54	48	680	443
Montgomery	67,300	280	240	42.4	35.7	264	208	124	114	1,558	1,194
Arkansas:											
Little Rock	83,700	283	84	34.6	10.0	198	77	226	169	1,496	848
Kentucky:											
Covington	66,200	67	39	10.3	5.9	60	34	111	126	343	347
Lexington	46,000	85	56	18.6	12.2	76	56	178	136	798	689
Louisville	308,300	428	156	13.9	5.1	337	141	763	526	1,756	1,174
Newport	[1] 29,744	17	3	5.7	1.0	17	3	38	27	114	63
Paducah	34,600	84	32	25.0	9.2	84	32	26	30	129	75
Louisiana:											
Baton Rouge	31,600	73	108	23.8	34.2	71	94	174	176	759	842
New Orleans	467,500	258	349	5.6	7.5	238	313	252	214	1,227	1,323
Shreveport	77,800	171	143	22.3	18.4	158	137	241	177	1,924	1,687

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

South Central States—Continued

State and city	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Oklahoma:											
Muskogee	32,200	24	18	7.5	5.6	23	18	78	43	151	86
Oklahoma City	196,800	2,005	879	108.2	44.7	1,300	624	1,012	606	3,270	1,796
Okmulgee	[1] 17,097	1	0	.6	0	1	0	11	8	30	17
Tulsa	145,800	943	377	66.8	25.9	702	352	794	360	2,360	1,501
Tennessee:											
Chattanooga	122,200	223	123	18.6	10.1	188	116	143	78	2,978	2,349
Knoxville	109,200	238	90	22.5	8.2	157	88	294	240	667	526
Memphis	258,800	1,057	227	41.8	8.8	867	205	842	686	3,693	2,717
Nashville	155,500	358	279	23.3	17.9	331	242	207	193	2,062	1,580
Texas:											
Austin	58,200	493	573	92.8	98.5	488	500	404	470	1,234	1,435
Beaumont	59,800	267	91	46.2	15.2	252	90	166	129	1,561	1,046
Dallas	273,100	996	947	38.2	34.7	661	694	585	486	3,325	3,071
El Paso	105,000	470	184	45.9	17.5	335	158	267	166	1,123	697
Fort Worth	167,400	626	495	38.3	29.6	538	434	468	472	2,616	1,923
Galveston	54,000	127	145	24.0	26.9	114	139	208	188	1,376	1,371
Houston	310,000	2,227	1,793	76.2	57.8	1,815	1,445	561	458	2,741	2,261
Port Arthur	54,400	244	50	47.9	9.2	228	50	200	113	1,070	626
San Antonio	240,100	1,135	668	49.0	27.8	950	531	570	410	3,234	2,586
Waco	54,800	106	88	20.1	16.1	107	80	81	52	360	312
Wichita Falls	44,100	30	6	6.9	1.4	31	6	35	21	278	132
Total	4,009,441	13,673	8,439	34.1	21.0	10,935	7,058	9,558	7,235	47,455	36,433
Per cent of change			−38.3				−35.5		−24.3		−23.2

Mountain and Pacific States

Arizona:											
Phoenix	50,100	410	222	85.2	44.3	276	154	172	85	794	488
Tucson	33,700	191	186	58.8	55.2	191	158	291	222	954	872
California:											
Alameda	35,800	145	62	41.4	17.3	71	51	120	135	826	633
Berkeley	85,100	345	216	42.0	25.4	241	186	276	213	1,541	1,143
Fresno	52,600	107	132	20.4	25.1	107	132	242	179	1,496	1,437
Long Beach	152,400	1,993	995	140.3	65.3	1,182	591	1,410	625	4,502	3,304
Los Angeles	1,317,600	11,437	6,600	92.4	50.1	5,665	4,356	9,243	6,582	30,614	25,311
Oakland	292,300	1,231	777	43.3	26.6	490	609	989	682	3,154	2,734
Pasadena	79,700	214	195	28.1	24.5	188	157	782	325	4,040	3,285
Sacramento	97,100	388	313	41.4	32.2	222	300	325	265	1,636	1,377
San Diego	156,400	829	627	56.1	40.1	666	550	924	718	3,219	2,831
San Francisco	650,000	2,206	2,441	34.8	37.6	1,302	1,804	412	365	4,951	5,251
San Jose	59,800	185	200	32.1	33.4	153	173	234	222	755	811
Stockton	48,800	100	146	20.8	29.9	67	136	262	269	648	755
Vallejo	[1] 14,476	28	32	19.3	22.1	28	32	94	57	413	373
Colorado:											
Colorado Springs	33,600	56	43	16.8	12.8	56	43	205	169	573	471
Denver	291,700	613	994	21.3	34.1	364	552	1,199	1,077	5,043	4,183
Pueblo	51,000	61	45	12.2	8.8	61	43	266	244	1,028	736
Montana:											
Butte	[1] 39,532	67	1	16.9	0.3	66	1	165	97	357	197
Great Falls	29,400	103	93	35.7	31.6	98	90	191	139	485	390
Oregon:											
Portland	307,000	866	539	28.7	17.6	509	448	1,729	1,361	6,041	4,823
Utah:											
Ogden	41,200	113	47	28.1	11.4	91	47	81	29	257	134
Salt Lake City	143,000	554	442	39.5	30.9	256	205	331	341	948	968
Washington:											
Bellingham	31,500	108	43	35.0	13.7	89	43	130	35	584	335
Everett	30,900	71	19	23.2	6.1	67	18	225	138	766	611
Seattle	371,700	2,583	1,139	70.7	30.6	1,256	1,010	1,737	1,388	6,577	5,714
Spokane	116,300	328	216	28.4	18.6	285	216	823	649	2,169	1,757
Tacoma	107,800	347	185	32.5	17.2	167	162	469	336	1,621	1,278
Total	4,720,508	25,679	16,950	54.4	35.9	14,214	12,267	23,327	16,947	85,992	72,202
Per cent of change			−34.0				−13.7		−27.4		−16.0
Total 311 cities	48,201,573	130,503	102,059	27.1	21.2	73,201	59,877	136,940	105,740	467,430	396,888
Per cent of change			−21.8				−18.2		−22.8		−15.1

[1] Population Apr. 1, 1930; no estimate made.

TABLE 4.—NUMBER OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES IN 1930 AND 1931—Continued

Hawaii

City	Population, 1931	Families provided for				Number of buildings for which permits were issued					
		Number		Per 10,000 population		New residential		New nonresidential		Total, including repairs	
		1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
Honolulu	144,200	827	864	60.1	59.9	793	836	781	595	2,562	2,379
Per cent of change			+4.5				+5.4		−23.8		−7.1

Building Operations, 1921 to 1931

TABLE 5 shows for 257 identical cities the estimated expenditures for new residential buildings, new nonresidential buildings, and total new buildings; the estimated population of each year, 1921 to 1931; the number of families provided for; the ratio of families provided to each 10,000 population; the index number of each of these items, and the index number of families provided for, weighted by population.

TABLE 5.—ESTIMATED EXPENDITURES FOR EACH CLASS OF NEW BUILDINGS, FAMILIES PROVIDED FOR AND RATIO TO POPULATION, AND INDEX NUMBERS THEREOF IN 257 IDENTICAL CITIES, 1921 TO 1931

Year	New residential buildings		New nonresidential buildings		Total new buildings	
	Estimated expenditure	Index number	Estimated expenditure	Index number	Estimated expenditure	Index number
1921	$937,352,739	100.0	$635,775,199	100.0	$1,573,127,938	100.0
1922	1,612,352,921	172.0	876,276,713	137.8	2,488,629,634	158.2
1923	2,000,986,900	213.5	1,070,596,718	168.4	3,071,583,618	195.3
1924	2,070,276,772	220.9	1,137,631,080	178.9	3,207,907,852	203.9
1925	2,461,546,270	262.6	1,343,880,884	211.4	3,805,427,154	241.9
1926	2,255,994,627	240.7	1,300,840,876	204.6	3,556,835,503	226.1
1927	1,906,003,260	203.3	1,231,785,870	193.7	3,137,789,130	199.5
1928	1,859,429,751	198.4	1,135,549,986	178.6	2,994,979,737	190.4
1929	1,433,111,774	152.9	1,146,958,101	180.4	2,580,069,875	164.0
1930	601,269,847	64.1	849,386,873	133.6	1,450,656,720	92.2
1931	426,270,111	45.5	622,830,444	98.0	1,049,100,555	66.7

Year	Population		Families provided for			
	As estimated by Census Bureau	Index number	Number	Index number	Ratio to each 10,000 of population	Index number adjusted to population
1921	36,575,118	100.0	224,545	100.0	61.4	100.0
1922	37,511,516	102.6	377,305	168.0	100.6	163.7
1923	38,447,913	105.1	453,673	202.0	118.0	192.2
1924	39,384,311	107.7	442,919	197.3	112.5	183.2
1925	40,320,708	110.2	491,222	218.8	121.8	198.4
1926	41,257,106	112.8	462,214	205.8	112.0	182.4
1927	42,058,897	115.0	406,095	180.9	96.6	157.3
1928	42,767,125	116.9	388,678	173.1	90.9	148.1
1929	43,665,235	119.4	244,394	108.8	56.0	91.1
1930	[1] 44,850,467	122.6	125,322	55.8	27.9	45.5
1931	45,896,339	125.5	98,178	43.7	21.4	34.8

[1] Actual enumeration.

During the year 1931, permits were issued for new buildings to cost $1,049,100,555. This is 33.3 per cent less than the cost of new buildings for which permits were issued during 1921, and considerably less than one-third of the cost of buildings for which permits were issued during 1925, the peak year of building operations in the United States.

The estimated expenditure for new residential buildings has decreased at a greater rate than that for new nonresidential buildings. With 1921 as a 100, the index number for residential buildings stood at 45.5. During the peak year, 1925, the index number for this class of building was 262.6.

New nonresidential buildings also reached a peak during 1925, when the index number stood at 211.4. This type of building has been decreasing steadily since that time, reaching a low of 98.0 in 1931.

The index number of families provided for climbed steadily from 1921 to the peak year 1925, but has declined each year since. The 1931 index number of families provided for was 43.7. Adjusting the families provided for according to population, the index number for 1931 is only 34.8. This adjustment is obtained by dividing the index number of families provided for by the index number of population. In other words, while 43.7 per cent as many families were provided with dwelling places in 1931 as in 1921, the population of these 257 cities increased 25.5 per cent during this period, and therefore, in proportion to the population, only 34.8 as many families were provided for in 1931 as in 1921.

Average Cost of Buildings per Family, 1921 to 1931

TABLE 6 shows for each of the years 1921 to 1931 the average cost, per family dwelling unit, of each type of housing accommodation for which permits were issued in the 257 identical cities from which reports were received.

TABLE 6.—AVERAGE COST OF NEW DWELLINGS[1] PER FAMILY IN 257 IDENTICAL CITIES, 1921 TO 1931

Year	Average cost of new dwellings per family				Index numbers of cost of dwellings per family			
	1-family dwellings	2-family dwellings[2]	Multi-family dwellings[3]	All classes of dwellings	1-family dwellings	2-family dwellings[2]	Multi-family dwellings[3]	All classes of dwellings
1921	$3,972	$3,762	$4,019	$3,947	100.0	100.0	100.0	100.0
1922	4,134	3,801	3,880	4,005	104.1	101.0	96.5	101.5
1923	4,203	4,159	4,001	4,127	105.8	110.6	99.6	104.6
1924	4,317	4,336	4,418	4,352	108.7	115.3	109.9	110.3
1925	4,618	4,421	4,289	4,464	116.3	117.5	106.7	113.1
1926	4,725	4,480	4,095	4,422	119.0	119.1	101.9	112.0
1927	4,830	4,368	4,170	4,449	121.6	116.1	103.8	112.7
1928	4,937	4,064	4,129	4,407	124.3	108.0	102.7	111.7
1929	4,915	4,020	4,402	4,566	123.7	106.9	109.5	115.7
1930	4,993	3,924	3,857	4,385	125.7	104.3	96.0	111.1
1931	4,834	3,607	3,644	4,225	121.7	95.9	90.7	107.0

[1] Includes only cost of the buildings.
[2] Includes 1-family and 2-family dwellings with stores.
[3] Includes multifamily dwellings with stores.

The average estimated expenditure for 1-family dwellings during the year 1931 was $4,834. This is higher than for any other year except the years 1928, 1929, and 1930. During 1930 the average cost per 1-family dwelling house in these 257 cities was $4,993. (It must be

borne in mind that these costs refer to the cost of the buildings only, and do not include land costs or profit or loss to the seller or the speculative builder.)

Two-family dwellings averaged $3,607 per family during the year 1931. This is lower than for any of the other 10 years under discussion. The 1931 cost of family dwelling units in apartment houses was also lower than for any of the other years for which figures are shown in the table. The estimated cost of all dwelling units in new buildings for which permits were issued during 1931 was $4,225. This is 7 per cent greater than the cost of dwelling units provided in 1921, but is lower than for any other year since 1923.

Families Provided for, 1921 to 1931

TABLE 7 shows the number and percentage distribution of families provided for in the different kinds of dwellings in 257 identical cities from which reports were received each year since 1921.

TABLE 7.—NUMBER AND PER CENT OF FAMILIES PROVIDED FOR IN DIFFERENT KINDS OF DWELLINGS IN 257 IDENTICAL CITIES, 1921 TO 1931

Year	Number of families provided for in—				Per cent of families provided for in—		
	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]	All classes of dwellings	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]
1921	130,873	38,858	54,814	224,545	58.3	17.3	24.4
1922	179,364	80,252	117,689	377,305	47.5	21.3	31.2
1923	207,632	96,344	149,697	453,673	45.8	21.2	33.0
1924	210,818	95,019	137,082	442,919	47.6	21.5	30.9
1925	226,159	86,145	178,918	491,222	46.0	17.5	36.4
1926	188,074	64,298	209,842	462,214	40.7	13.9	45.4
1927	155,512	54,320	196,263	406,095	38.3	13.4	48.3
1928	136,907	43,098	208,673	388,678	35.2	11.1	53.7
1929	98,164	27,813	118,417	244,394	40.2	11.4	48.5
1930	57,318	15,145	52,859	125,322	45.7	12.1	42.2
1931	48,330	11,310	38,538	98,178	49.2	11.5	39.3

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.

During 1931, quarters were provided for 98,178 families in these 257 cities. Of this number, 49.2 per cent were to reside in 1-family dwellings, 11.5 per cent in 2-family dwellings, and 39.3 per cent in multifamily dwellings. This is the second consecutive year that the percentage of families provided for in 1-family dwellings has exceeded those provided for in apartment houses. For the years 1926, 1927, 1928, and 1929, more families were provided for in apartment houses than in 1-family dwellings. In the year 1928, more families were provided for in apartment houses than in 1-family and 2-family dwellings combined. The number of families provided for in 1-family dwellings reached a peak of 226,159 during the year 1925. The peak year for 2-family dwellings was 1923, when 96,344 families were provided for in this class of building. Only 11,310 families were provided for in 2-family dwellings during the year 1931.

The peak year for apartment-house building was 1926, when 209,842 families were to be domiciled in this class of structure. Only 38,538 new family dwelling units were provided in multifamily dwellings during 1931.

During 1925, dwelling units were provided for 491,222 families in all classes of structures in these 257 cities. During 1931, less than one-fifth as many families were provided for as during the peak year.

Table 8 shows the percentage of families provided for by the different types of dwellings for the years 1921 to 1931, inclusive, in 257 identical cities, by population groups.

TABLE 8.—PER CENT OF FAMILIES PROVIDED FOR BY DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF 25,000 OR OVER, 1921 TO 1931

Population group	Year	Total number of families provided for	Per cent of families provided for in—		
			1-family dwellings	2-family dwellings [1]	Multifamily dwelling [2]
500,000 and over (14 cities)	1921	112,373	44.2	21.7	34.0
	1922	207,828	35.5	23.6	40.9
	1923	257,565	34.2	24.2	41.7
	1924	245,297	35.6	25.3	39.1
	1925	280,124	34.3	18.3	47.4
	1926	281,172	28.2	13.9	58.0
	1927	236,113	25.8	13.4	60.8
	1928	232,681	22.1	10.7	67.2
	1929	139,007	25.3	10.3	64.4
	1930	70,199	32.0	12.2	55.8
	1931	61,140	35.3	11.3	53.4
100,000 and under 500,000 (75 cities)	1921	75,073	72.0	12.0	16.0
	1922	113,272	61.5	18.6	19.9
	1923	128,521	60.6	16.6	22.8
	1924	126,400	62.7	16.8	20.5
	1925	138,284	60.6	16.6	22.8
	1926	118,719	60.2	13.2	26.6
	1927	108,342	54.9	13.6	31.5
	1928	99,827	52.2	11.9	35.9
	1929	70,664	55.8	13.1	31.1
	1930	37,999	59.0	13.0	28.0
	1931	24,996	68.9	13.2	17.9
50,000 and under 100,000 (86 cities)	1921	26,060	74.9	15.0	10.2
	1922	39,818	63.7	18.5	17.7
	1923	47,916	61.3	19.1	19.6
	1924	49,778	60.0	14.8	25.2
	1925	49,812	61.6	15.3	23.1
	1926	43,155	57.5	14.7	27.8
	1927	42,911	52.8	12.2	35.0
	1928	38,804	55.4	10.7	33.9
	1929	23,365	65.3	11.0	23.7
	1930	10,884	69.6	9.7	20.7
	1931	7,703	74.5	9.5	16.0
25,000 and under 50,000 (82 cities)	1921	11,039	68.7	18.2	13.1
	1922	16,387	64.2	16.7	19.1
	1923	19,671	62.8	18.2	19.0
	1924	21,444	67.4	20.2	12.4
	1925	23,002	67.5	18.8	13.7
	1926	19,168	65.6	17.5	16.9
	1927	18,729	66.5	14.2	19.4
	1928	17,366	68.2	12.5	19.3
	1929	11,358	72.3	14.7	13.0
	1930	6,240	77.8	9.4	12.9
	1931	4,339	86.6	8.5	4.9
Total (257 cities)	1921	224,545	58.3	17.3	24.4
	1922	377,305	47.5	21.3	31.2
	1923	453,673	45.8	21.2	33.0
	1924	442,919	47.6	21.5	30.9
	1925	491,222	46.0	17.5	36.4
	1926	462,214	40.7	13.9	45.4
	1927	406,095	38.3	13.4	48.3
	1928	388,678	35.2	11.1	53.7
	1929	244,394	40.2	11.4	48.5
	1930	125,322	45.7	12.1	42.2
	1931	98,178	49.2	11.5	39.3

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.

TABLE 9.—PER CENT OF FAMILIES PROVIDED FOR BY DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF 500,000 OR OVER, 1921, 1929, 1930, AND 1931

City and year	Total number of families provided for	Per cent of families provided for in—		
		1-family dwellings	2-family dwellings [1]	Multifamily dwellings [2]
Baltimore:				
1921	2,176	85.0	4.5	10.5
1929	3,022	92.7	.1	9.2
1930	1,484	97.0	-------	3.0
1931	1,953	84.1	-------	15.9
Boston:				
1921	878	15.5	30.5	54.0
1929	3,327	15.1	24.4	60.5
1930	1,415	33.1	43.8	23.1
1931	1,796	28.8	24.4	46.8
Buffalo:				
1921	2,405	51.6	48.0	.4
1929	1,769	18.9	51.5	29.6
1930	1,072	15.2	52.7	32.1
1931	1,029	9.5	61.9	28.6
Chicago:				
1921	12,252	37.9	17.6	44.6
1929	18,837	14.9	7.2	77.9
1930	2,741	38.9	18.3	42.8
1931	966	62.4	20.9	16.7
Cleveland:				
1921	4,084	35.5	40.5	24.0
1929	2,143	54.3	19.4	26.3
1930	1,176	60.2	14.8	25.0
1931	511	78.1	13.3	8.6
Detroit:				
1921	6,743	46.9	17.9	35.2
1929	12,151	48.8	26.5	24.7
1930	4,084	55.4	30.5	14.1
1931	2,135	79.1	14.7	6.2
Los Angeles:				
1921	19,572	68.0	16.9	15.2
1929	15,234	34.8	11.7	53.5
1930	11,437	36.8	12.1	51.1
1931	6,600	52.1	16.3	31.7
Milwaukee:				
1921	2,212	44.9	38.2	16.9
1929	3,848	24.3	26.0	49.7
1930	1,729	26.2	27.9	45.9
1931	929	40.5	33.7	25.8
New York City:				
1921	51,360	31.6	24.2	44.2
1929	58,320	10.8	6.2	83.0
1930	36,182	18.3	8.2	73.5
1931	35,736	20.5	9.5	70.1
The Bronx—				
1921	14,037	11.7	11.9	76.4
1929	13,978	4.9	3.9	91.2
1930	7,012	9.3	3.6	87.2
1931	8,537	10.0	4.0	86.0
Brooklyn—				
1921	16,636	24.1	44.0	31.9
1929	11,224	9.7	12.2	78.1
New York City—Continued.				
Brooklyn-Con.				
1930	9,275	12.8	10.6	76.5
1931	10,837	9.0	12.3	78.6
Manhattan—				
1921	4,837	.7	3.7	95.5
1929	18,067	(3)	(3)	99.9
1930	8,669	.1	(3)	99.9
1931	2,585	.2	.1	99.7
Queens—				
1921	13,256	60.0	24.4	15.6
1929	13,861	27.2	10.4	62.4
1930	10,495	43.6	12.3	44.1
1931	12,716	40.2	10.7	49.1
Richmond—				
1921	2,594	100.0	-------	-------
1929	1,190	61.6	22.1	16.3
1930	731	27.9	62.1	10.0
1931	1,061	33.8	32.2	33.9
Philadelphia:				
1921	2,406	93.3	-------	6.7
1929	7,098	57.1	3.2	39.7
1930	1,744	69.8	5.8	24.4
1931	1,028	81.1	7.0	11.9
Pittsburgh:				
1921	1,335	59.3	26.8	13.9
1929	2,153	60.1	9.5	30.4
1930	1,349	66.1	13.0	20.9
1931	919	68.7	11.3	20.0
St. Louis:				
1921	2,072	49.0	24.1	26.8
1929	4,364	28.5	12.1	59.4
1930	1,618	51.8	11.6	36.6
1931	1,491	65.1	12.5	22.5
San Francisco:				
1921	2,683	37.6	17.0	45.4
1929	3,518	35.1	5.9	59.0
1930	2,206	53.2	5.9	40.9
1931	2,441	69.4	5.2	25.4
Washington:				
1921	2,195	75.4	-------	24.6
1929	3,223	42.3	.7	57.0
1930	1,962	49.0	1.1	49.8
1931	3,606	38.9	-------	61.1
Total (14 cities):				
1921	112,373	44.2	21.7	34.0
1929	139,007	25.3	10.3	64.4
1930	70,199	32.0	12.2	55.8
1931	61,140	35.3	11.3	53.4

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.
[3] Less than one-tenth of 1 per cent.

There was a marked difference in the ratio of families provided for in 1-family dwellings and multifamily dwellings in the different population groups, as shown in Table 8. For example, during 1931 in the cities having a population of 500,000 and over, 53.4 per cent of the total family dwelling units provided for were in apartment houses, and only 35.3 per cent in 1-family dwellings. In cities having a population of 25,000 and under 50,000, 86.6 per cent were to be provided for in 1-family dwellings and only 4.9 per cent in apartment houses. During 1931 more families were provided for in 1-family dwellings than in apartment houses in all population groups except the cities.

having a population of 500,000 and over. In the 14 cities having a population of over half a million, more families have been provided for in apartment houses than in 1-family dwellings each year since 1922. During 1928, 67.2 per cent of the families provided for in these larger cities were to dwell in apartment houses. The 75 cities having a population of over 100,000 and under 500,000 have always provided for more families in 1-family dwellings than in apartment houses. This is also true of the 86 cities having a population of over 50,000 but under 100,000, and the 82 cities having a population of over 25,000 but under 50,000. In the last-named group, during 1931, more families were provided for in 2-family dwellings than in apartment houses.

Table 9 shows the percentages of families provided for by the different types of buildings in each of the 14 cities having a population of 500,000 or over, in 1921, 1929, 1930, and 1931.

Ten of these 14 large cities provided for more families in 1-family dwellings than in apartment houses during the year 1931. In 1929 only six of these cities provided for more families in 1-family dwellings than in apartment houses. The probable cause of this change is the cessation of speculative building. As an example of the swing from apartment houses to 1-family dwellings, Chicago during 1929 provided for 18,837 family dwelling units; of these, 77.9 per cent were in apartment houses and only 14.9 per cent in 1-family dwellings. During 1931, only 966 dwelling units were provided in Chicago, of which 62.4 per cent were in 1-family dwellings and only 16.7 per cent in multifamily dwellings. Washington, D. C., was the only city in this group which provided for more families in 1931 than during 1929; 61.1 per cent of the family dwelling units provided for in Washington during 1931 were in apartment houses.

Five Leading Cities, 1921 to 1931

THE five leading cities in total building expenditures for the calendar year 1931 were New York, Chicago, Washington, Los Angeles, and Philadelphia, in the order named. New York, Chicago, and Los Angeles have all been in the group of the five leading cities for every year, 1921 to 1931. Philadelphia has been one of the five leading cities each year since 1922. Washington has reached this selected group only during the last two years.

Table 10 ranks the cities according to their total expenditures for building construction of all kinds as shown by permits issued. Table 11 shows what has been done, in proportion to their size, in the construction of family units, in the five cities leading in this particular feature.

During 1931, permits issued for new dwelling units in the cities from which reports were received showed that 21.2 families were provided for per each 10,000 of population. Austin, Tex. (with 98.5 families provided for per 10,000 of population), planned dwelling quarters for more families in proportion to its population than any other city from which reports were received during the year 1931.

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TABLE 10.—FIVE CITIES LEADING IN TOTAL EXPENDITURE, EACH YEAR, 1921 TO 1931

Year and city	Total expenditure	Year and city	Total expenditure
1921		1927	
New York	$442,285,248	New York	$880,333,455
Chicago	133,027,910	Chicago	365,065,042
Cleveland	86,680,023	Detroit	145,555,647
Los Angeles	82,761,386	Los Angeles	123,027,139
Detroit	58,086,053	Philadelphia	117,590,650
1922		1928	
New York	645,176,481	New York	916,671,855
Chicago	229,853,125	Chicago	323,509,048
Los Angeles	121,206,787	Detroit	129,260,285
Philadelphia	114,190,525	Philadelphia	112,225,865
Detroit	93,614,593	Los Angeles	101,678,768
1923		1929	
New York	789,265,335	New York	942,297,219
Chicago	334,164,404	Chicago	210,797,640
Los Angeles	200,133,181	Philadelphia	104,405,545
Detroit	129,719,831	Detroit	100,567,497
Philadelphia	128,227,405	Los Angeles	93,020,160
1924		1930	
New York	836,043,604	New York	410,165,789
Chicago	308,911,159	Chicago	85,749,167
Detroit	160,547,723	Los Angeles	75,356,715
Los Angeles	150,147,516	Philadelphia	53,141,770
Philadelphia	141,402,655	Washington	48,823,891
1925		1931	
New York	1,020,604,713	New York	362,864,076
Chicago	373,803,571	Chicago	66,693,556
Detroit	180,132,528	Washington	52,588,151
Philadelphia	171,034,280	Los Angeles	41,421,685
Los Angeles	152,646,436	Philadelphia	35,265,216
1926			
New York	1,039,670,572		
Chicago	376,808,480		
Detroit	183,721,443		
Philadelphia	140,093,075		
Los Angeles	123,006,215		

The figures in Table 11 show the number of families provided for per 10,000 of population, according to the last estimate available each year, as prepared by the Bureau of the Census. The 1930 ratios are based on the 1930 census enumeration.

TABLE 11.—FAMILIES PROVIDED FOR BY RESIDENTIAL CONSTRUCTION, PER 10,000 OF POPULATION, IN THE FIVE LEADING CITIES EACH YEAR, 1921 TO 1931

Year and city	Families provided for per 10,000 of population
1921	
Long Beach, Calif.	631.9
Los Angeles, Calif.	320.9
Pasadena, Calif.	251.7
Shreveport, La.	249.8
Lakewood, Ohio	191.3
1922	
Long Beach, Calif.	1,081.0
Los Angeles, Calif.	441.6
Lakewood, Ohio	358.9
Miami, Fla.	268.1
East Cleveland, Ohio	267.6
1923	
Long Beach, Calif.	1,038.1
Los Angeles, Calif.	657.4
Miami, Fla.	611.1
Irvington, N. J.	432.1
Lakewood, Ohio	381.5
1924	
Miami, Fla.[1]	2,248.9
Irvington, N. J.	501.2
Los Angeles, Calif.[2]	448.3
San Diego, Calif.	378.0
Long Beach, Calif.	347.6
1925	
Miami, Fla.[1]	1,342.0
San Diego, Calif.	392.0
Tampa, Fla.	379.3
Irvington, N. J.	374.6
Los Angeles, Calif.[2]	331.0
1926	
St. Petersburg, Fla.	700.3
Mount Vernon, N. Y.	644.7
Irvington, N. J.	398.6
1926—Continued	
White Plains, N. Y.	367.2
San Diego, Calif.	339.5
1927	
Irvington, N. J.	740.5
White Plains, N. Y.	419.5
Mount Vernon, N. Y.	414.8
Yonkers, N. Y.	349.0
East Orange, N. J.	338.1
1928	
Yonkers, N. Y.	347.6
Mount Vernon, N. Y.	299.1
White Plains, N. Y.	298.3
Long Beach, Calif.	297.4
Irvington, N. J.	295.4
1929	
Long Beach, Calif.	306.9
Phoenix, Ariz.	236.3
Houston, Tex.	211.6
Pontiac, Mich.	208.8
Wichita, Kans.	159.1
1930	
Long Beach, Calif.	141.0
Oklahoma City, Okla.	109.7
Los Angeles, Calif.	92.9
Austin, Tex.	92.8
Bloomfield, N. J.	90.4
1931	
Austin, Tex.	98.5
Alhambra, Calif.	87.2
Glendale, Calif.	79.3
Yonkers, N. Y.	73.6
Washington, D. C.	73.4
White Plains, N. Y.	73.4

[1] The ratio of families provided for in Miami in 1924 was based on the population as estimated by the Census Bureau for that year. In the light of the actual census taken by the State enumeration in 1925, it would seem that the estimate for 1924 was below the actual population for that year, hence the ratio here shown for 1924 is probably higher than the actual population in that year would warrant.

[2] Population not estimated in 1924 or 1925; 1923 estimate used.

Prices of Building Materials and Wages

THE Bureau of Labor Statistics collects monthly the wholesale prices of building materials and from such figures computes index numbers. Retail prices paid by builders are not available but it is believed that the trend of retail prices follows closely that of wholesale prices.

The index numbers shown in Table 12 for wage rates in the building trades are wage rates for union labor only. In many cities the building trades are highly organized, while in others there is much nonunion labor. The bureau has no data concerning the trend of labor in the nonunion trades.

Based on 1921, the index number of wholesale prices in the building trades reached a peak of 111.6 in 1923. It decreased thereafter each year until 1928, when it stood at 96.6. A slight increase occurred in 1929, and then a sharp dropping off in the year 1930; 1931 again

dropped off sharply. The index number of wholesale prices of building materials for 1931 stood at 81.4. The index number of union wage rates in the building trades has climbed steadily from a low point of 93.4 reached in 1922 to a high of 137.9 in 1931, 1921 being the base or 100.0.

TABLE 12.—INDEX NUMBERS OF WHOLESALE PRICES OF BUILDING MATERIALS AND OF UNION WAGE RATES IN THE BUILDING TRADES, 1921 TO 1931

Year	Wholesale prices of building materials	Union wage rates per hour in the building trades	Year	Wholesale prices of building materials	Union wage rates per hour in the building trades
1921	100.0	100.0	1927	97.2	128.5
1922	99.9	93.4	1928	96.6	129.0
1923	111.6	103.6	1929	97.9	130.6
1924	105.0	112.2	1930	92.3	136.2
1925	104.4	116.3	1931	81.4	137.9
1926	102.7	124.0			

Tenement Dwellings in New York City

THE report of Mr. William F. Deegan, commissioner of tenement houses, New York City, received by the Bureau of Labor Statistics, shows that on December 31, 1931, there were still standing in the city of New York, 67,240 old-law tenements, that is, tenements erected previous to the adoption on April 10, 1901, of what is known as the "new tenement law."

Many rooms in this class of tenement have neither doors nor windows opening on the outside. Also, the old law did not require toilets or baths in each dwelling unit; for the most part, hall toilets were installed and often one was used by six or more families.

Tenements erected under the new tenement law numbered 52,447 at the end of 1931, and housed 847,748 families.

On April 19, 1929, another multiple-dwelling law was passed and buildings constructed under this law are known as class A multiple dwellings. On December 31, 1931, there were 949 of these buildings, providing for 39,349 families. There were also 400 dwelling houses converted to tenements, that is, 1-family dwellings which had been remodeled to accommodate three or more families; these dwellings housed 1,429 families.

The following table shows the number of tenement houses by classes, and the number of families provided for by each class of temenent, in each of the five boroughs of Greater New York, at the end of 1930 and 1931:

NUMBER OF TENEMENT BUILDINGS OF EACH TYPE, AND NUMBER OF DWELLING UNITS THEREIN, IN EACH BOROUGH OF NEW YORK CITY, DECEMBER 31, 1930 AND 1931

Classes of tenement	Number of buildings		Number of dwelling units		Number of buildings		Number of dwelling units	
	1930	1931	1930	1931	1930	1931	1930	1931
	Manhattan				Bronx			
Old-law tenements	29,509	29,250	339,767	337,392	4,705	4,674	32,112	31,991
New-law tenements	6,843	6,823	229,414	229,626	11,125	11,150	269,656	270,865
Class A multiple dwellings	46	112	3,772	11,405	40	214	1,229	8,954
Converted dwellings	40	60	203	330	18	24	65	89
Total	36,438	36,245	573,156	578,753	15,888	16,062	303,062	311,899
	Brooklyn				Queens			
Old-law tenements	31,495	31,377	148,764	148,207	1,649	1,642	7,113	7,091
New-law tenements	25,985	26,024	261,257	262,678	8,386	8,401	82,726	83,523
Class A multiple dwellings	151	393	2,136	11,098	57	227	1,457	7,806
Converted dwellings	280	301	867	952	1	14	3	51
Total	57,911	58,095	413,024	422,935	10,093	10,284	91,299	98,471
	Richmond				New York City			
Old-law tenements	300	297	1,195	1,185	67,658	67,240	528,951	525,866
New-law tenements	50	49	1,051	1,056	52,389	52,447	844,104	847,748
Class A multiple dwellings	0	3	0	86	294	949	8,594	39,349
Converted dwellings	1	1	7	7	340	400	1,145	1,429
Total	351	350	2,253	2,334	120,681	121,036	1,382,794	1,414,392

In New York City, on December 31, 1931, there were 121,036 tenements of all kinds, providing 1,414,392 family dwelling units. On December 31, 1930, the number of tenements was 120,681, and the number of dwelling units 1,382,794.

During 1931, 418 old-law tenements with 3,085 dwelling units were demolished. New-law tenements completed during the year numbered 58; these were buildings the plans of which had been filed prior to April 19, 1929, and at least the first story completed by April 1, 1930.

During 1931, 655 new class A apartment houses were completed; these were to house 30,755 families.

WAGES AND HOURS OF LABOR

Wages and Hours of Labor in Anthracite Mining, 1931

EARNINGS and hours of wage earners in the anthracite-mining industry in Pennsylvania were less in 1931 than in 1924. The 42,689 wage earners who were included in a study of the industry in 1931 by the Bureau of Labor Statistics earned an average of 82.4 cents per hour in 1931 or 3.3 cents per hour less than was earned by the 44,500 included in a study by the bureau in 1924. (Between 1924 and 1931 no study was made.) Average earnings per day for the same wage earners were $6.70 in 1924 and $6.45 in 1931, and per half month were $75.01 in 1924 and $70.36 in 1931. Average hours actually worked in a half month (excluding time of travel and for lunch) were 87.5 in 1924 and 85.4 in 1931.

The above averages are presented in Table 1 with like averages for the industry for 1922. The table also shows averages for 1922, 1924, and 1931 for inside work and for outside work. Inside work includes the work of wage earners in all underground occupations and outside work includes the work of wage earners in all surface occupations.

TABLE 1.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL WAGE EARNERS COVERED AT ANTHRACITE MINES, 1922, 1924, AND 1931, BY CLASS OF WORK

Class of work	Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average hours worked		Average earnings		
					In half month	Per start or day	In half month	Per start (day)	Per hour, excluding time for lunch
Inside work									
All occupations (including miners and miners' laborers)	1922	29	17,066	11.4	84.4	7.4	$70.74	$6.20	$0.838
	1924	56	34,036	10.9	80.7	7.4	77.95	7.18	.965
	1931	47	35,000	10.7	80.7	7.6	71.47	6.71	.886
Outside work									
All occupations	1922	29	4,933	13.0	115.0	8.9	61.69	4.75	.536
	1924	56	10,464	12.3	109.4	8.9	65.45	5.32	.598
	1931	47	7,689	12.1	106.7	8.8	65.28	5.41	.612
Total (inside and outside)									
All occupations (including miners and miners' laborers, inside)	1922	29	21,999	11.8	91.3	7.8	68.71	5.84	.753
	1924	56	44,500	11.2	87.5	7.8	75.01	6.70	.857
	1931	47	42,689	10.9	85.4	7.8	70.36	6.45	.824

Scope of Study

THE averages were computed from data covering hours and earnings of individual employees in 47 collieries for a half-monthly pay period in October, 1931. The wage data used in compiling this report were taken directly from the pay rolls and other records of the

various companies, by agents of the bureau, for representative collieries in each of the four coal fields in the anthracite region of Pennsylvania. Data are presented separately for each field, as well as for the four fields combined. In former studies data were shown only for the anthracite region as a whole.

The 1931 figures cover 42,689 employees, or 28.3 per cent of the 150,804 mine workers reported by the United States Bureau of Mines as engaged in the mining of anthracite in Pennsylvania in 1930. Of the 42,689 included in the report, 35,000, or 82 per cent, were underground or "inside" wage earners. The remaining 7,689 were surface or "outside" employees, though a comparatively few of them may at times have worked underground.

Miners and Miners' Laborers

Hours and Earnings, 1922 to 1931

TABLE 2 shows for 1922, 1924, and 1931 the average number of days and hours worked and average earnings made in a half-month pay period by miners and miners' laborers, as a group. This group includes contract miners, consideration miners, company miners, and their respective laborers. They mine the coal and load it into mine cars or perform duties incident to mining and loading. Most of the contract miners and their laborers are paid by the ton, while consideration miners and company miners and their laborers are paid by the hour, day, or week. The averages for the whole group of miners and laborers cover 12,106 workers in 29 collieries in 1922; 23,715 workers in 56 collieries in 1924; and 24,529 workers in 47 collieries in 1931.

The average hours and average earnings per hour are based on (1) time at face, excluding time for lunch, (2) time at face, including time for lunch, and (3) total time in colliery, including time for lunch and time required to travel, inside the colliery, from its opening to the face or place of work and return. The term "face" means the upright surface of the seam of coal on which the men are working, or, broadly, their place of work.

The average number of starts (days or parts of days) worked in the half month by miners and miners' laborers dropped from 11 in 1922 to 10.5 in 1924, and to 10.4 in 1931. The average hours in the half month actually worked at the face, excluding time for lunch, decreased from 75.4 in 1922, to 71.7 in 1924, and increased to 74.5 in 1931. The increase from 1924 to 1931 represented 3.9 per cent. The average hours per start based on time at face, excluding time for lunch, increased from 6.8 in 1922 and 1924 to 7.2 in 1931. The increase from 1924 to 1931 was about 6 per cent. The average time taken for lunch was about 30 minutes. The average earnings per hour, based on time at face, excluding time for lunch, increased from $0.974 in 1922 to $1.142 in 1924 and fell to $0.987 in 1931, the decrease from 1924 to 1931 representing 13.6 per cent. Average earnings in a half month increased from $73.43 in 1922 to $81.82 in 1924 and decreased to $73.57 in 1931, the decrease from 1924 to 1931 representing 10.1 per cent. Average earnings per start (day) increased from $6.65 in 1922 to $7.77 in 1924, and dropped to $7.06 in 1931. The decrease from 1924 to 1931 was 9.1 per cent.

TABLE 2.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND MINERS' LABORERS, 1922, 1924, AND 1931

Item	1922	1924	1931
Number of collieries	29	56	47
Number of wage earners	12,106	23,715	24,529
Average number of starts (days) worked in half month	11.0	10.5	10.4
Average hours:			
In half month, based on—			
Time at face excluding lunch	75.4	71.7	74.5
Time at face including lunch	80.9	76.9	79.7
Time in mine	88.0	84.1	87.0
Per start (day), based on—			
Time at face excluding lunch	6.8	6.8	7.2
Time at face including lunch	7.3	7.3	7.6
Time in mine	8.0	8.0	8.4
Average earnings:			
Per hour, based on—			
Time at face excluding lunch	$0.974	$1.142	$0.967
Time at face including lunch	$0.908	$1.063	$0.924
Time in mine	$0.834	$0.973	$0.845
In half month	$73.43	$81.82	$73.57
Per start (day)	$6.65	$7.77	$7.06

Contract Miners

In number of employees, earnings, and actual performance, contract mining forms the basic occupation in anthracite mining. The 12,294 employees in this occupation constituted a little less than 29 per cent of the 42,689 employees in the 47 collieries studied in 1931. Contract miners were found in each of the 47 collieries. Assisted by their laborers, they drill holes into the seams of coal by hand or by electric or compressed-air coal-mining machines, load the holes with explosives, apply the fuse, set the timing device, shoot or blast the coal from the seams, and load it into mine cars or chutes. For this they are paid a tonnage or other piece rate, the unit of pay being a mine car of specified capacity, as 2, 2½, or 3 tons, or per ton of 2,240 pounds, or on a yardage basis.

Time records.—Since these employees are usually tonnage workers, very few of the companies keep a record of either the hours in the mine, the hours spent at the face or place of work, or the hours actually worked by this class of miners. It was therefore necessary, in order to be able to compute average hourly earnings, to make arrangements with the companies to have kept a special day-by-day record of hours worked by each of the contract miners and their laborers for a representative half-month pay-roll period. The 1931 record was kept for a pay period in October. In keeping this record, some companies recorded the total time in the colliery from the time of entrance into the shaft or other openings in the morning to the time of exit from the mine after completion of the day's work, including travel from mine opening to place of work and return, period of actual work at the face, and time, if any, taken for dinner or lunch. Other companies recorded only the total time at the face, including the time actually worked and that taken for dinner or lunch, but no travel time. Still others recorded the time actually worked exclusive of travel time and time taken for dinner or lunch.

The average time consumed per day in going from the shaft or other opening of the mine to the place of work and return was obtained for each colliery included in the study. The average ranged from 10 minutes to 1½ hours per day. The weighted average travel time for the 19,980 contract miners and contract miners' laborers in the 47 collieries was 42 minutes per day, or 21 minutes each way.

In the collieries studied, the contract miners and their laborers had no regular time for dinner or lunch but ate while waiting for empty mine cars or while idle for any other reason. The weighted average time taken for dinner or lunch, based upon estimates by mine officials, was a fraction less than 30 minutes per day.

Method of computing average earnings per hour.—From the foregoing explanation it is seen that the hours of contract miners and contract miners' laborers, as reported by the various collieries covered in the study, were on different bases. In order to show average earnings per hour for all employees in these occupations on a common basis, it was necessary to use the data obtained as to the average travel and lunch time of these employees. From these data it was possible to obtain, with approximate accuracy, for each employee of each colliery: (1) Time at the face, excluding time for lunch, (2) time at face, including time for lunch, and (3) total time in colliery.

The aggregate earnings of all employees in the occupation in the half-month pay period covered, divided by the aggregate number of hours at the face, excluding time for lunch, gave the average earnings per hour based on hours actually worked at the face, exclusive of time for lunch; the aggregate earnings divided by the aggregate hours at the face, including time for lunch, gave the average earnings per hour based on total hours at the face, including time for lunch; and the aggregate earnings divided by the aggregate hours in the colliery, including time for lunch and travel, gave the average earnings per hour based on total time in the colliery.

Hours and Earnings, 1924 and 1931, by Occupation

Table 3 shows for the anthracite region in Pennsylvania as a whole, 1924 and 1931, average number of starts (days) and hours worked, and average earnings made by employees in each of the six classes which make up the group of miners and miners' laborers in Table 2. Average time rates are also shown for company and consideration miners and their laborers. In addition, 1931 figures are presented for each of the four coal fields in the anthracite region; in studies prior to 1931 data were published only for the anthracite region as a whole.

The 1931 figures in the table cover 1,333 laborers of company miners; 778 laborers of consideration miners; 7,686 laborers of contract miners; 1,583 company miners; 855 consideration miners; and 12,294 contract miners—a total of 24,529 employees.

The average number of starts (days) in a half-month pay period worked by laborers of consideration miners, increased from 10.6 in 1924 to 11.1 in 1931, and for consideration miners themselves increased from 10.9 to 11.5. Changes in other occupations were slight. The average for all miners' laborers combined decreased from 10.2 to 10 and that for all miners combined from 10.8 to 10.7.

The average hours at the face, excluding time for lunch, in one-half month for company miners' laborers decreased from 84.1 in 1924 to 80.9 in 1931, and for company miners decreased from 84.5 to 84.1. The hours for each of the other four classes showed an increase. The average for all miners' laborers combined increased from 71.9 in 1924 to 74 in 1931, and for all miners combined increased from 71.5 to 74.8.

The average hours per start (day), based upon time at face, excluding time for lunch, showed a slight decrease from 1924 to 1931 in three occupations and an increase in the other three. Averages for all miners' laborers combined increased from 7.1 to 7.4 and for all miners combined from 6.6 to 7 per start or day.

Average earnings per hour, based upon the time at the face, excluding time for lunch, for each of the six occupations showed a decrease, and in three of the six the decrease was marked. Averages for all miners' laborers combined decreased from 89.2 cents in 1924 to 80.3 cents in 1931, and for all miners combined, from $1.302 to $1.109. Averages for all miners and miners' laborers combined decreased from $1.142 to 98.7 cents, or approximately 13.6 per cent.

Average earnings per start (day) for each of the six classes showed a decrease, 1924 to 1931. Contract miners had the greatest decrease—namely, from $9.07 to $8.00, or 11.8 per cent. Averages for all miners' laborers combined decreased from $6.31 in 1924 to $5.97 in 1931, and for all miners combined, from $8.65 to $7.73 per day. Averages for all miners and miners' laborers combined decreased from $7.77 to $7.06, a little more than 9 per cent.

For the employees in the four time-work occupations shown—company and consideration miners and their laborers—the rates per day and per week were reduced to an hourly basis and the weighted average rates per hour, which are rates for time actually worked, are presented alongside the average earnings per hour, based on time at the face, or place of work, excluding time for lunch.

TABLE 3.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD

TABLE 3.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD

Occupation and field	Year	Number of—		Average number of starts (days) worked in half month	Average hours						Average rate of wages per hour at face, excluding lunch	Average earnings				
					In half month, based on—			Per start, based on—				Per hour, based on—				
					Time at face		Time in mine	Time at face		Time in mine		Time at face		Time in mine	In half month	Per start (day)
		Collieries	Wage earners		Excluding lunch	Including lunch		Excluding lunch	Including lunch			Excluding lunch	Including lunch			
Laborers, company miners:																
All fields	1924	47	1,699	10.2	84.1	89.4	96.5	8.2	8.7	9.4	$0.686	$0.696	$0.655	$0.607	$58.57	$5.72
All fields	1931	43	1,333	10.0	80.9	85.9	93.3	8.1	8.6	9.3	.680	.685	.646	.594	55.46	5.55
Northern field	1931	22	916	10.1	82.6	87.7	94.8	8.1	8.6	9.3	.685	.692	.652	.603	57.19	5.64
Eastern middle field	1931	4	104	9.5	76.8	82.5	89.3	8.1	8.7	9.4	.676	.687	.639	.591	52.73	5.55
Western middle field	1931	10	72	9.9	79.6	84.6	91.2	8.0	8.5	9.2	.681	.681	.641	.594	54.24	5.46
Southern field	1931	7	241	9.6	76.6	81.0	90.3	8.0	8.4	9.4	.661	.658	.622	.559	50.44	5.25
Laborers, consideration miners:																
All fields	1924	22	748	10.6	86.1	91.4	97.7	8.1	8.6	9.2	.765	.767	.722	.676	65.98	6.21
All fields	1931	19	778	11.1	88.2	93.7	101.4	8.0	8.5	9.2	.745	.745	.702	.649	65.77	5.95
Northern field	1931	13	683	11.1	88.8	94.3	101.9	8.0	8.5	9.2	.753	.751	.707	.655	66.68	6.01
Eastern middle field	1931	1	45	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Western middle field	1931	1	7	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Southern field	1931	4	43	9.6	73.9	78.2	88.5	7.7	8.2	9.3	.715	.714	.674	.596	52.75	5.52
Laborers, contract miners:																
All fields	1924	53	6,794	10.1	67.3	72.4	79.1	6.7	7.2	7.8	.....	.971	.903	.826	65.39	6.47
All fields	1931	45	7,686	9.8	71.4	76.3	82.8	7.3	7.8	8.4	.....	.833	.779	.718	59.48	6.05
Northern field	1931	23	6,717	9.8	71.9	76.8	83.2	7.4	7.9	8.5	.....	.828	.775	.716	59.56	6.09
Eastern middle field	1931	4	384	10.0	64.7	69.4	75.5	6.5	6.9	7.5	.....	.909	.848	.779	58.80	5.87
Western middle field	1931	11	383	10.2	69.6	74.7	81.6	6.8	7.3	8.0	.....	.837	.780	.715	58.30	5.73
Southern field	1931	7	202	10.7	69.9	75.0	85.0	6.5	7.0	7.9	.....	.862	.803	.709	60.26	5.63
Laborers, all miners:																
All fields	1924	56	9,241	10.2	71.9	77.1	83.8	7.1	7.6	8.2	.....	.892	.833	.765	64.17	6.31
All fields	1931	46	9,797	10.0	74.0	79.0	85.7	7.4	7.9	8.6	.....	.803	.752	.693	59.43	5.97
Northern field	1931	23	8,316	9.9	74.5	79.5	86.0	7.5	8.0	8.7	.....	.804	.754	.696	59.88	6.03
Eastern middle field	1931	4	533	10.1	69.8	74.8	81.1	6.9	7.4	8.0	.....	.835	.780	.719	58.34	5.77
Western middle field	1931	11	462	10.1	71.2	76.2	83.0	7.0	7.5	8.2	.....	.808	.755	.693	57.51	5.69
Southern field	1931	8	486	10.1	73.6	78.3	87.9	7.3	7.8	8.7	.....	.744	.699	.622	54.73	5.44

[1] Data included in total.

TABLE 3.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD—Continued

Occupation and field	Year	Number of—		Average number of starts (days) worked in half month	Average hours						Average rate of wages per hour at face, excluding lunch	Average earnings				
					In half month, based on—			Per start, based on—				Per hour, based on—				
					Time at face		Time in mine	Time at face		Time in mine		Time at face		Time in mine	In half month	Per start (day)
		Collieries	Wage earners		Excluding lunch	Including lunch		Excluding lunch	Including lunch			Excluding lunch	Including lunch			
Miners, company:																
All fields	1924	47	1,735	10.3	84.5	89.8	96.7	8.2	8.7	9.3	$0.757	$0.795	$0.747	$0.694	$67.15	$6.49
All fields	1931	44	1,583	10.5	84.1	89.3	97.0	8.0	8.5	9.3	.747	.769	.724	.666	64.62	6.16
Northern field	1931	22	656	10.7	87.0	92.4	99.5	8.1	8.6	9.3	.759	.779	.734	.682	67.82	6.32
Eastern middle field	1931	4	95	9.9	80.0	85.9	93.0	8.1	8.7	9.4	.746	.777	.724	.668	62.17	6.30
Western middle field	1931	11	469	10.8	86.2	91.6	99.3	8.0	8.5	9.2	.736	.747	.703	.648	64.38	5.97
Southern field	1931	7	363	9.8	77.0	81.6	90.6	7.8	8.3	9.2	.741	.776	.733	.660	59.77	6.08
Miners, consideration:																
All fields	1924	22	961	10.9	84.7	90.1	96.3	7.8	8.3	8.9	.861	.933	.876	.820	78.99	7.26
All fields	1931	21	855	11.5	90.5	96.1	104.5	7.9	8.4	9.1	.843	.871	.820	.755	78.87	6.88
Northern field	1931	13	598	12.2	98.1	104.2	112.6	8.1	8.6	9.2	.857	.863	.812	.752	84.66	6.95
Eastern middle field	1931	1	54	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Western middle field	1931	1	10	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Southern field	1931	6	193	9.2	66.4	70.4	79.5	7.2	7.7	8.7	.833	.953	.899	.796	63.27	6.90
Miners, contract:																
All fields	1924	55	11,778	10.8	68.5	73.9	81.4	6.3	6.8	7.5	.....	1.432	1.327	1.204	98.07	9.07
All fields	1931	47	12,294	10.7	72.6	77.8	85.6	6.8	7.3	8.0	.....	1.180	1.101	1.000	85.62	8.00
Northern field	1931	24	5,383	10.5	75.9	81.2	88.2	7.2	7.7	8.4	.....	1.144	1.069	.985	86.82	8.24
Eastern middle field	1931	4	1,166	10.3	65.2	70.1	76.8	6.3	6.8	7.5	.....	1.272	1.182	1.079	82.92	8.06
Western middle field	1931	11	3,731	11.0	73.6	79.1	86.7	6.7	7.2	7.9	.....	1.130	1.052	.959	83.17	7.57
Southern field	1931	8	2,014	10.9	66.0	70.7	81.7	6.0	6.5	7.5	.....	1.342	1.251	1.083	88.52	8.10
All miners:																
All fields	1924	56	14,474	10.8	71.5	76.9	84.2	6.6	7.1	7.8	.....	1.302	1.211	1.105	93.10	8.65
All fields	1931	47	14,732	10.7	74.8	80.1	87.9	7.0	7.5	8.2	.....	1.109	1.036	.944	82.97	7.73
Northern field	1931	24	6,637	10.7	79.0	84.4	91.5	7.4	7.9	8.6	.....	1.073	1.005	.926	84.75	7.92
Eastern middle field	1931	4	1,315	10.3	67.5	72.6	79.3	6.5	7.0	7.7	.....	1.201	1.117	1.023	81.11	7.85
Western middle field	1931	11	4,210	11.0	75.0	80.5	88.1	6.8	7.3	8.0	.....	1.080	1.007	.919	81.01	7.40
Southern field	1931	8	2,570	10.6	67.6	72.2	82.8	6.3	6.8	7.8	.....	1.222	1.143	.997	82.56	7.76
All miners and miners' laborers:																
All fields	1924	56	23,715	10.5	71.7	76.9	84.1	6.8	7.3	8.0	.....	1.142	1.063	.973	81.82	7.77
All fields	1931	47	24,529	10.4	74.5	79.7	87.0	7.2	7.6	8.4	.....	.987	.924	.845	73.57	7.06
Northern field	1931	24	14,953	10.3	76.5	81.6	88.5	7.4	7.9	8.6	.....	.927	.869	.802	70.92	6.91
Eastern middle field	1931	4	1,848	10.3	68.2	73.2	79.8	6.6	7.1	7.8	.....	1.093	1.018	.934	74.54	7.26
Western middle field	1931	11	4,672	10.9	74.6	80.0	87.6	6.9	7.4	8.1	.....	1.055	.983	.898	78.68	7.24
Southern field	1931	8	3,056	10.5	68.5	73.2	83.6	6.5	6.9	7.9	.....	1.140	1.067	.934	78.14	7.41

[1] Data included in total.

Wage Earners Other Than Miners and Miners' Laborers

TABLE 4 shows for 1922, 1924, and 1931, the average number of days and hours worked and average earnings made in a half-month pay period by all wage earners inside and outside the colliery other than miners and miners' laborers, as a group. The averages for this group, by years, cover 9,893 employees in 29 collieries in 1922; 20,785 in 56 collieries in 1924; and 18,160 employees in 47 collieries in 1931. These employees are all time workers.

The hours given in this table represent actual time worked, excluding time for lunch.

The average number of starts (days) in the half-month pay period decreased from 12.6 in 1922 to 12 in 1924, and to 11.6 in 1931. Average hours actually worked in the half month decreased from 110.7 in 1922 to 105.5 in 1924, and to 100.1 in 1931. Average earnings in the half month increased from $62.94 in 1922 to $67.23 in 1924, but dropped to $66.02 in 1931. Average earnings per day increased from $4.98 in 1922 to $5.62 in 1924, and to $5.70 in 1931. Average earnings per hour increased from 56.8 cents in 1922 to 63.7 cents in 1924, and to 66 cents in 1931.

TABLE 4.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF WAGE EARNERS OTHER THAN MINERS AND MINERS' LABORERS, 1922, 1924, AND 1931

Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average actual hours worked—		Average earnings		
				In half month	Per start (day)	In half month	Per start (day)	Per hour at face, excluding lunch
1922	29	9,893	12.6	110.7	8.8	$62.94	$4.98	$0.568
1924	56	20,785	12.0	105.5	8.8	67.23	5.62	.637
1931	47	18,160	11.6	100.1	8.6	66.02	5.70	.660

Table 5 shows for the anthracite region as a whole, 1924 and 1931, the average number of starts (days) and hours worked, and average earnings of employees in each occupation inside and outside the colliery other than miners and miners' laborers. In addition, 1931 figures are presented for each of the four coal fields in the anthracite region. In studies prior to 1931 data were published only for the anthracite region as a whole.

The inside workers include 13 occupations and a miscellaneous group designated as "other employees," with a total of 10,471 employees in the 47 collieries covered in the 1931 study. For this group, the average number of starts (days) in a half-month pay period decreased from 11.6 in 1924 to 11.2 in 1931, average hours worked in a half month decreased from 101.6 to 95.2, average hours per start decreased from 8.8 to 8.5, average earnings in a half month decreased from $69.03 to $66.57, average earnings per start (day) varied only one cent (from $5.95 to $5.94), while average earnings per hour increased from 67.9 to 70 cents.

The outside workers include 18 occupations and the miscellaneous group of "other employees," with a total of 7,689 employees at the 47 collieries covered in 1931, as compared with 10,464 at 56 collieries

in 1924. The decrease in number of outside workers from 1924 to 1931, was due chiefly to the installation of improved preparation machinery and the centralization of breakers. For this outside group, the average number of starts (days) in a half-month pay period decreased from 12.3 in 1924 to 12.1 in 1931, average hours in a half month decreased from 109.4 to 106.7 average hours per start (day) decreased from 8.9 to 8.8, average earnings in a half month decreased from $65.45 to $65.28, while average earnings per start (day) increased from $5.32 to $5.41, and average earnings per hour increased from 59.8 cents in 1924 to 61.2 cents in 1931.

All occupations, inside and outside combined, other than miners and miners' laborers, comprise a total of 18,160 employees in the 47 collieries covered in 1931, as compared with 20,785 in the 56 collieries in 1924. Average number of starts for this combined group decreased from 12 in 1924 to 11.6 in 1931, average hours in the half month decreased from 105.5 to 100.1, average hours per start decreased from 8.8 to 8.6, average earnings in a half month decreased from $67.23 to $66.02, while average earnings per start (day) increased from $5.62 to $5.70, and average earnings per hour increased from 63.7 cents in 1924 to 66 cents in 1931.

TABLE 5.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD

Occupation and field	Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average actual hours worked		Average earnings		
					In half month	Per start (day)	In half month	Per start (day)	Per hour at face, excluding lunch
Inside work									
Bratticemen:									
All fields	1924	43	260	11.5	97.2	8.4	$68.87	$5.99	$0.709
All fields	1931	42	263	11.8	98.8	8.3	71.01	6.00	.719
Northern field	1931	22	117	12.0	101.1	8.4	71.32	5.92	.706
Eastern middle field	1931	3	12	12.0	98.6	8.2	70.37	5.86	.714
Western middle field	1931	10	100	11.5	96.1	8.3	70.07	6.08	.729
Southern field	1931	7	34	12.0	99.2	8.3	72.96	6.08	.736
Car runners:									
All fields	1924	43	745	11.5	100.6	8.7	65.25	5.66	.649
All fields	1931	34	499	10.6	91.0	8.6	57.87	5.47	.636
Northern field	1931	20	442	10.6	91.4	8.6	57.83	5.47	.633
Eastern middle field	1931	2	14	10.7	87.0	8.1	57.38	5.36	.659
Western middle field	1931	5	15	10.8	90.9	8.4	60.25	5.58	.663
Southern field	1931	7	28	10.3	86.9	8.5	57.48	5.59	.661
Door tenders (boys):									
All fields	1924	47	368	11.4	93.5	8.2	35.64	3.13	.381
All fields	1931	36	212	10.6	86.6	8.1	33.06	3.11	.382
Northern field	1931	20	161	10.5	86.2	8.2	32.70	3.10	.379
Eastern middle field	1931	4	16	10.7	86.3	8.1	33.64	3.15	.390
Western middle field	1931	7	25	11.4	91.7	8.0	34.95	3.07	.381
Southern field	1931	5	10	10.3	80.8	7.8	33.08	3.21	.410
Drivers:									
All fields	1924	52	1,054	11.3	97.8	8.6	61.83	5.46	.632
All fields	1931	40	843	11.0	91.3	8.3	58.84	5.37	.645
Northern field	1931	19	421	10.3	87.4	8.5	55.08	5.36	.630
Eastern middle field	1931	4	52	12.1	99.8	8.3	61.14	5.07	.613
Western middle field	1931	10	263	11.6	94.7	8.2	63.03	5.44	.666
Southern field	1931	7	107	11.5	94.0	8.2	62.23	5.40	.662
Engineers:									
All fields	1924	49	296	12.7	112.5	8.8	77.93	6.13	.692
All fields	1931	44	293	11.6	98.3	8.5	67.41	5.81	.686
Northern field	1931	22	181	11.5	100.2	8.7	68.74	5.96	.686
Eastern middle field	1931	4	26	11.1	92.2	8.3	60.88	5.48	.660
Western middle field	1931	11	59	12.3	99.7	8.1	68.42	5.55	.686
Southern field	1931	7	27	10.9	87.9	8.1	62.56	5.77	.712

TABLE 5.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD—Continued

Occupation and field	Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average actual hours worked		Average earnings		
					In half month	Per start (day)	In half month	Per start (day)	Per hour at face, excluding lunch
Inside work—Continued									
Headmen and footmen (shaft, slope, and drift):									
All fields	1924	54	627	11.5	107.2	9.3	$71.41	$6.20	$0.666
All fields	1931	46	604	11.3	102.0	9.0	67.96	5.99	.667
Northern field	1931	23	389	11.4	104.0	9.1	68.45	6.01	.658
Eastern middle field	1931	4	47	11.2	96.3	8.6	64.19	5.75	.666
Western middle field	1931	11	124	11.1	96.0	8.6	65.70	5.91	.685
Southern field	1931	8	44	11.8	106.6	9.0	73.97	6.27	.694
Laborers:									
All fields	1924	55	2,388	11.1	95.0	8.6	63.05	5.68	.664
All fields	1931	47	1,626	11.1	91.6	8.2	60.47	5.44	.660
Northern field	1931	24	1,105	11.3	93.4	8.3	61.43	5.44	.657
Eastern middle field	1931	4	106	10.4	84.8	8.2	56.29	5.42	.664
Western middle field	1931	11	236	11.2	91.3	8.2	61.42	5.49	.673
Southern field	1931	8	179	10.4	84.6	8.2	55.75	5.39	.659
Masons:									
All fields	1924	28	104	12.1	98.9	8.2	72.04	5.96	.728
All fields	1931	24	126	11.7	95.4	8.1	67.31	5.73	.706
Northern field	1931	21	122	11.7	95.4	8.1	67.07	5.71	.703
Eastern middle field	1931	1	2	[1]	[1]	[1]	[1]	[1]	[1]
Southern field	1931	2	2	13.0	104.0	8.0	83.92	6.46	.807
Motormen:									
All fields	1924	50	733	11.4	107.2	9.4	75.32	6.60	.703
All fields	1931	46	854	11.3	102.2	9.0	71.63	6.33	.701
Northern field	1931	23	596	11.4	103.6	9.1	72.14	6.32	.696
Eastern middle field	1931	4	41	10.3	88.8	8.6	62.32	6.04	.702
Western middle field	1931	11	101	11.6	107.9	9.3	77.26	6.66	.716
Southern field	1931	8	116	10.9	94.3	8.6	67.35	6.15	.714
Motor brakemen:									
All fields	1924	51	724	11.2	99.9	9.0	63.87	5.72	.639
All fields	1931	46	852	10.9	94.8	8.7	60.71	5.55	.641
Northern field	1931	23	626	11.0	94.8	8.6	60.62	5.52	.639
Eastern middle field	1931	4	40	10.1	87.4	8.7	54.19	5.37	.620
Western middle field	1931	11	92	11.7	102.9	8.8	69.01	5.92	.671
Southern field	1931	8	94	10.4	89.8	8.6	55.96	5.36	.623
Pump men:									
All fields	1924	51	350	14.8	126.9	8.6	87.52	5.90	.690
All fields	1931	42	260	14.7	123.7	8.4	85.89	5.84	.694
Northern field	1931	24	171	14.6	122.3	8.4	85.11	5.83	.696
Eastern middle field	1931	4	19	14.6	122.7	8.4	79.39	5.43	.647
Western middle field	1931	10	46	15.1	126.8	8.4	89.74	5.95	.708
Southern field	1931	4	24	14.9	129.2	8.7	89.18	5.98	.690
Timber men:									
All fields	1924	48	370	10.9	90.1	8.2	69.75	6.38	.774
All fields	1931	42	378	11.0	90.6	8.2	67.13	6.09	.741
Northern field	1931	22	172	11.6	96.7	8.3	71.83	6.20	.742
Eastern middle field	1931	4	59	10.4	83.9	8.0	62.50	6.00	.745
Western middle field	1931	9	86	10.8	86.7	8.0	64.05	5.94	.739
Southern field	1931	7	61	10.4	85.5	8.2	62.73	6.04	.734
Trackmen:									
All fields	1924	55	406	12.0	104.5	8.7	77.39	6.47	.741
All fields	1931	47	396	11.4	95.1	8.4	70.38	6.19	.740
Northern field	1931	24	254	11.2	93.7	8.4	69.95	6.25	.747
Eastern middle field	1931	4	22	11.1	93.2	8.4	68.96	6.19	.740
Western middle field	1931	11	75	12.2	102.5	8.4	74.61	6.11	.728
Southern field	1931	8	45	11.1	92.0	8.3	66.42	5.99	.722
Other employees:									
All fields	1924	55	1,896	12.0	106.8	8.9	80.43	6.70	.753
All fields	1931	47	3,265	11.1	93.8	8.5	72.52	6.54	.773
Northern field	1931	24	1,735	11.0	94.6	8.6	73.26	6.64	.774
Eastern middle field	1931	4	158	10.7	91.5	8.6	76.15	7.15	.832
Western middle field	1931	11	825	11.3	94.1	8.3	74.06	6.53	.787
Southern field	1931	8	547	11.0	91.5	8.3	66.80	6.07	.730
All employees:									
All fields	1924	56	10,321	11.6	101.6	8.8	69.03	5.95	.679
All fields	1931	47	10,471	11.2	95.2	8.5	66.57	5.94	.700
Northern field	1931	24	6,492	11.2	96.0	8.6	66.27	5.92	.691
Eastern middle field	1931	4	614	10.9	91.2	8.4	64.38	5.92	.706
Western middle field	1931	11	2,047	11.5	96.0	8.3	69.63	6.06	.725
Southern field	1931	8	1,318	11.0	91.8	8.4	64.29	5.85	.701

[1] Data included in total.

TABLE 5.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD—Continued

Occupation and field	Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average actual hours worked		Average earnings		
					In half month	Per start (day)	In half month	Per start (day)	Per hour at face, excluding lunch
Outside work									
Ashmen:									
All fields	1924	41	94	14.4	124.3	8.6	$73.73	$5.11	$0.593
All fields	1931	32	48	14.7	125.0	8.5	73.22	4.97	.586
Northern field	1931	19	31	15.2	126 4	8.3	73.86	4.85	.584
Eastern middle field	1931	3	3	16.0	152.0	9.5	87.85	5.49	.578
Western middle field	1931	5	7	13.6	116.9	8.6	67.54	4.98	.578
Southern field	1931	5	7	13.1	115.2	8.8	69.80	5.31	.606
Blacksmiths:[2]									
All fields	1924	56	190	12.1	109.3	9.1	82.11	6.80	.751
All fields	1931	47	130	11.7	104.0	8.9	77.80	6.65	.748
Northern field	1931	24	66	11.3	100.0	8.9	75.38	6.68	.753
Eastern middle field	1931	4	11	11.5	106.5	9.2	75.53	6.54	.709
Western middle field	1931	11	33	12.6	113.2	9.0	84.52	6.70	.746
Southern field	1931	8	20	11.7	100.4	8.6	75.96	6.49	.757
Carpenters:									
All fields	1924	56	607	12.3	109.0	8.9	78.53	6.40	.720
All fields	1931	46	478	12.5	110.1	8.8	78.60	6.31	.714
Northern field	1931	23	199	12 4	109.1	8.8	78.08	6.28	.716
Eastern middle field	1931	4	65	13.1	118.8	9.1	82.14	6.26	.691
Western middle field	1931	11	108	12.2	105.8	8.7	76.56	6.29	.723
Southern field	1931	8	106	12.4	111.0	8.9	79.48	6.40	.716
Car runners:									
All fields	1924	41	231	10.9	97.2	8.9	56.75	5.19	.584
All fields	1931	30	159	10.9	94.8	8.7	55.13	5.05	.582
Northern field	1931	13	74	11.3	100.8	8.9	58.49	5.17	.580
Eastern middle field	1931	3	14	11.4	104.3	9.1	60.29	5.28	.578
Western middle field	1931	8	29	11.6	100.9	8.7	58.98	5.09	.585
Southern field	1931	6	42	9.6	76.8	8.0	44.82	4.68	.583
Dumpers:									
All fields	1924	55	197	12.0	108.0	9.0	63.24	5.28	.586
All fields	1931	42	127	11.7	106.1	9.1	62.35	5.35	.588
Northern field	1931	21	79	11.2	103.3	9.2	60.37	5.37	.584
Eastern middle field	1931	4	15	12.0	118.3	9.9	69.35	5.78	.586
Western middle field	1931	9	19	12.9	110.2	8.5	65.28	5.04	.593
Southern field	1931	8	14	11.9	103.0	8.7	62.02	5.23	.602
Engineers:									
All fields	1924	52	441	14.2	122.7	8.6	87.71	6.17	.715
All fields	1931	46	386	14.1	119.5	8.5	87.92	6.24	.735
Northern field	1931	24	190	14.1	120.1	8.5	91.42	6.47	.761
Eastern middle field	1931	4	39	13.8	117.1	8.5	83.92	6.06	.717
Western middle field	1931	10	97	14.0	117.6	8.4	82.66	5.92	.703
Southern field	1931	8	60	14.3	122.4	8.5	87.93	6.13	.719
Firemen:									
All fields	1924	51	413	14.7	123.6	8.4	80.66	5.50	.653
All fields	1931	43	284	14.9	123.0	8.3	81.56	5.48	.663
Northern field	1931	22	151	15.0	123.4	8.3	81.31	5.44	.659
Eastern middle field	1931	3	25	15.8	127.1	8.0	80.10	5.07	.630
Western middle field	1931	10	77	14.5	121.7	8.4	82.61	5.68	.679
Southern field	1931	8	31	14.6	121.3	8.3	81.39	5.56	.671
Headmen (shaft, slope, and drift):									
All fields	1924	52	234	12.1	112.4	9.3	67.29	5.57	.599
All fields	1931	42	171	11.9	111.2	9.4	65.68	5.52	.591
Northern field	1931	22	106	11.8	113.4	9.6	66.33	5.62	.585
Eastern middle field	1931	3	19	12.2	104.9	8.6	61.26	5.04	.585
Western middle field	1931	9	24	11.7	101.3	8.7	60.35	5.17	.596
Southern field	1931	8	22	12.3	116.7	9.5	72.16	5.86	.618
Jig runners:									
All fields	1924	47	282	11.9	114.5	9.6	65.50	5.51	.572
All fields	1931	33	191	11.3	114.0	10.1	66.12	5.87	.580
Northern field	1931	17	92	11.0	111.5	10.1	64.28	5.83	.576
Eastern middle field	1931	3	30	11.5	125.9	11.0	72.79	6.35	.578
Western middle field	1931	6	32	12.0	111.8	9.3	64.92	5.41	.580
Southern field	1931	7	37	11.1	112.7	10.2	66.33	6.00	.588
Laborers:									
All fields	1924	55	2,612	12.0	109.3	9.1	63.10	5.24	.577
All fields	1931	47	1,630	11.5	101.7	8.8	58.91	5.11	.579
Northern field	1931	24	794	11.9	106.3	8.9	61.61	5.19	.580
Eastern middle field	1931	4	124	11.6	109.5	9.4	63.51	5.45	.580
Western middle field	1931	11	371	10.8	92.2	8.5	53.34	4.93	.576
Southern field	1931	8	341	11.4	98.6	8.7	57.00	5.01	.577
Loaders:									
All fields	1924	54	381	11.7	104.4	8.9	61.01	5.20	.585
All fields	1931	45	254	11.1	98.3	8.8	57.18	5.14	.585
Northern field	1931	22	155	11.1	98.4	8.9	57.25	5.17	.587
Eastern middle field	1931	4	21	10.4	100.2	9.6	58.00	5.56	.577

[2] These employees frequently work underground, usually at same rate.

TABLE 5.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION AND FIELD—Continued

Occupation and field	Year	Number of collieries	Number of wage earners	Average number of starts (days) worked in half month	Average actual hours worked		Average earnings		
					In half month	Per start (day)	In half month	Per start (day)	Per hour at face, excluding lunch
Outside work—Continued									
Loaders—Continued.									
Western middle field	1931	11	40	12.1	102.1	8.4	$59.68	$4.93	$0.585
Southern field	1931	8	38	10.7	92.6	8.7	53.80	5.05	.581
Machinists: [2]									
All fields	1924	52	296	13.2	122.7	9.3	87.49	6.61	.713
All fields	1931	45	230	12.3	113.2	9.2	80.44	6.51	.711
Northern field	1931	23	110	12.1	109.3	9.1	79.54	6.59	.728
Eastern middle field	1931	4	20	13.2	117.5	8.9	79.89	6.08	.680
Western middle field	1931	10	45	13.2	121.1	9.2	87.49	6.65	.722
Southern field	1931	8	55	11.9	112.9	9.4	76.65	6.42	.679
Oilers:									
All fields	1924	50	134	11.8	112.8	9.5	65.64	5.55	.582
All fields	1931	45	87	11.7	114.3	9.8	67.41	5.77	.590
Northern field	1931	22	39	11.4	107.4	9.4	62.72	5.50	.584
Eastern middle field	1931	4	5	12.2	134.6	11.0	78.58	6.44	.584
Western middle field	1931	11	23	12.5	124.2	9.9	73.79	5.89	.594
Southern field	1931	8	20	11.2	111.3	10.0	66.41	5.96	.597
Platemen:									
All fields	1924	45	366	11.1	96.1	8.6	54.37	4.89	.566
All fields	1931	41	268	10.9	96.9	8.9	56.28	5.18	.581
Northern field	1931	19	104	10.4	91.9	8.8	53.26	5.12	.580
Eastern middle field	1931	4	31	12.2	125.1	10.3	72.28	5.93	.578
Western middle field	1931	10	62	11.2	98.1	8.7	57.36	5.10	.585
Southern field	1931	8	71	10.7	90.9	8.5	52.78	4.95	.581
Repairmen:									
All fields	1924	38	182	11.9	105.9	8.9	66.86	5.61	.631
All fields	1931	23	66	12.8	123.3	9.6	80.48	6.27	.653
Northern field	1931	10	30	12.7	123.3	9.7	81.28	6.40	.660
Eastern middle field	1931	2	3	14.3	156.7	10.9	99.30	6.93	.634
Western middle field	1931	7	27	12.8	122.3	9.5	79.86	6.23	.653
Southern field	1931	4	6	12.8	111.3	8.7	69.82	5.44	.627
Slaters (boys):									
All fields	1924	53	1,103	11.6	96.2	8.3	35.68	3.08	.371
All fields	1931	39	688	10.7	88.7	8.3	32.83	3.06	.370
Northern field	1931	19	362	10.2	83.9	8.2	30.61	3.00	.365
Eastern middle field	1931	3	23	10.2	99.5	9.7	36.57	3.58	.368
Western middle field	1931	10	232	11.7	96.8	8.3	36.38	3.11	.376
Southern field	1931	7	71	10.2	83.2	8.2	31.34	3.07	.377
Timber cutters:									
All fields	1924	46	240	11.4	96.7	8.5	58.47	5.15	.605
All fields	1931	40	182	11.6	97.7	8.4	58.14	5.02	.595
Northern field	1931	19	72	12.1	102.1	8.5	59.63	4.95	.584
Eastern middle field	1931	4	26	11.3	100.4	8.9	58.07	5.15	.578
Western middle field	1931	11	55	10.7	89.0	8.3	55.62	5.19	.625
Southern field	1931	6	29	12.3	100.7	8.2	59.30	4.82	.589
Trackmen:									
All fields	1924	42	127	11.2	100.7	9.0	61.77	5.49	.613
All fields	1931	41	100	12.4	105.2	8.5	63.49	5.12	.604
Northern field	1931	19	34	12.1	105.1	8.7	65.07	5.37	.619
Eastern middle field	1931	4	11	14.3	127.1	8.9	76.77	5.38	.604
Western middle field	1931	10	16	13.1	109.6	8.4	67.44	5.14	.615
Southern field	1931	8	39	11.8	97.3	8.2	56.75	4.81	.583
Other employees:									
All fields	1924	56	2,334	12.7	113.6	8.9	71.47	5.63	.629
All fields	1931	47	2,210	12.5	112.2	9.0	71.60	5.74	.638
Northern field	1931	24	1,034	12.5	109.8	8.8	69.58	5.58	.633
Eastern middle field	1931	4	228	12.4	119.0	9.6	76.34	6.14	.642
Western middle field	1931	11	533	12.7	112.8	8.9	72.88	5.75	.646
Southern field	1931	8	415	12.3	113.5	9.2	72.41	5.89	.638
All employees:									
All fields	1924	56	10,464	12.3	109.4	8.9	65.45	5.32	.598
All fields	1931	47	7,689	12.1	106.7	8.8	65.28	5.41	.612
Northern field	1931	24	3,722	12.1	106.3	8.8	64.75	5.37	.609
Eastern middle field	1931	4	713	12.4	115.8	9.4	71.76	5.81	.620
Western middle field	1931	11	1,830	12.1	105.5	8.7	64.12	5.28	.608
Southern field	1931	8	1,424	11.8	105.0	8.9	64.90	5.49	.618
All employees (inside and outside):									
All fields	1924	56	20,785	12.0	105.5	8.8	67.23	5.62	.637
All fields	1931	47	18,160	11.6	100.1	8.6	66.02	5.70	.660
Northern field	1931	24	10,214	11.5	99.7	8.7	65.71	5.71	.659
Eastern middle field	1931	4	1,327	11.7	104.4	8.9	68.34	5.86	.655
Western middle field	1931	11	3,877	11.8	100.5	8.5	67.03	5.68	.667
Southern field	1931	8	2,742	11.4	98.6	8.6	64.61	5.66	.655

[2] These employees frequently work underground, usually at same rate.

Hours and Earnings, Per Week, 1931

TABLE 6 presents, for each of the six classes of miners and miners' laborers, average starts (days), hours, and earnings in one week based upon actual figures for the half month. The averages for one week were weighted, that is, the aggregate days, hours worked, and earnings of the employees in an occupation at a given mine were divided by the number of normal working-days in the half month for the occupation and the results were multiplied by six for a 6-day occupation or by seven for a 7-day occupation. The aggregates thus obtained for the given occupation for all collieries covered in the anthracite region were combined and from these combined aggregates the usual averages were computed for one week. This was done for the purpose of having weekly figures available for comparison with like average hours and earnings in other industries, in most of which weekly pay periods prevail.

The average number of starts (days) per week, based upon the number made in a half month, varied from 4.9 for consideration miners, to 4.2 for laborers of contract miners, and the average for the whole group of miners and miners' laborers was 4.5.

Average weekly hours worked (excluding time for lunch) based on the number actually worked in a half month, varied from 38.9 for the 855 consideration miners to 30.7 for the 7,686 laborers of contract miners. The average for the whole group of miners and miners' laborers was 32 hours for the week. The average amount which could have been earned in one week, on the basis of the actual earnings during the half-month pay period, varied from $36.77 for the contract miners to $23.95 for the laborers of company miners. The average for all the miners and miners' laborers combined was $31.61.

TABLE 6.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS PER WEEK OF MINERS AND MINERS' LABORERS, 1931, BY OCCUPATION

Occupation	Number of collieries	Number of wage earners	Average number of starts (days) worked in one week	Average hours in one week based on—			Average earnings in one week
				Time at face		Time in mine	
				Excluding lunch	Including lunch		
Laborers, company miners'	43	1,333	4.3	34.9	37.1	40.3	$23.95
Laborers, consideration miners'	19	778	4.7	37.8	40.2	43.5	28.21
Laborers, contract miners'	45	7,686	4.2	30.7	32.8	35.6	25.54
Total	46	9,797	4.3	31.8	33.9	36.8	25.54
Miners, company	44	1,583	4.5	36.2	38.5	41.8	27.87
Miners, consideration	21	855	4.9	38.9	41.3	44.9	33.89
Miners, contract	47	12,294	4.6	31.1	33.4	36.7	36.77
Total	47	14,732	4.6	32.1	34.4	37.8	35.65
Grand total (miners and miners' laborers)	47	24,529	4.5	32.0	34.2	37.4	31.61

Table 7 presents for all employees in each occupation inside and outside the colliery, other than miners and miners' laborers, average starts (days), hours, and earnings in one week, based upon actual figures for a half-month pay-roll period. As in the case of miners and miners' laborers, the averages here were weighted. The hours

used in this table represent actual time worked, exclusive of time for lunch.

The average number of starts (days) per week on work inside the colliery varied from 6.4 for pumpmen to 4.5 for car runners and the average for the employees in all 14 inside occupations combined was 4.8. On work outside the colliery the number of starts varied from 6.5 for fireman to 4.7 for both car runners and platemen. The average for slaters (boys) was 4.6. The average for all 19 outside occupations combined was 5.2 and the average for both inside and outside employees combined was 5 days.

Average actual hours worked inside the colliery in one week varied from 54.1 for pumpmen to 38.1 for car runners and 37.1 for door tenders (boys); the average for all inside occupations combined was 40.9. On work outside the colliery the average ranged from 54.5 for ashmen to 40.8 for car runners and to 38.1 for slaters (boys); the average for all outside occupations combined was 46. For the total number of workers inside and outside the colliery the average was 43 hours.

TABLE 7.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS, ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, PER WEEK, 1931, BY OCCUPATION

Occupation	Number of collieries	Number of wage earners	Average number of starts (days) worked in one week	Average actual hours worked in one week	Average earnings in one week
Inside work					
Bratticemen	42	263	5.1	42.4	$30.46
Car runners	34	499	4.5	38.1	24.82
Door tenders (boys)	36	212	4.6	37.1	14.12
Drivers	40	843	4.7	39.1	25.22
Engineers	44	293	5.0	42.3	29.01
Headmen and footmen (shaft, slope, and drift)	46	604	4.9	43.8	29.17
Laborers	47	1,626	4.8	39.3	25.88
Masons	24	126	5.0	40.9	28.87
Motormen	46	854	4.9	43.9	30.81
Motor brakemen	46	852	4.7	40.8	26.11
Pumpmen	42	260	6.4	54.1	37.58
Timbermen	42	378	4.7	38.8	28.78
Trackmen	47	396	4.9	40.9	30.22
Other employees	47	3,265	4.8	40.5	31.32
Total	47	10,471	4.8	40.9	28.64
Outside work					
Ashmen	32	48	6.4	54.5	31.94
Blacksmiths [1]	47	130	5.0	44.7	33.42
Carpenters	46	478	5.3	47.2	33.72
Car runners	30	159	4.7	40.8	23.71
Dumpers	42	127	5.0	45.6	26.83
Engineers	46	386	6.2	52.6	38.72
Firemen	43	284	6.5	53.8	35.68
Headmen (shaft, slope, and drift)	42	171	5.1	47.7	28.19
Jig runners	33	191	4.8	48.8	28.44
Laborers	47	1,630	4.9	43.7	25.31
Loaders	45	254	4.8	42.4	24.64
Machinists [1]	45	230	5.3	48.7	34.62
Oilers	45	87	5.0	49.1	28.96
Platemen	41	268	4.7	41.6	24.17
Repairmen	23	66	5.5	53.1	34.63
Slaters (boys)	39	688	4.6	38.1	14.09
Timber cutters	40	182	5.0	42.0	24.98
Trackmen	41	100	5.3	45.3	27.32
Other employees	47	2,210	5.4	48.2	30.78
Total	47	7,689	5.2	46.0	28.13
Grand total (inside and outside)	47	18,160	5.0	43.0	28.43

[1] These employees frequently work underground, usually at same rate.

Average actual earnings that could have been made in one week, based upon the amount actually earned in a half month, by employees inside the colliery ranged from $37.58 for pumpmen to $24.82 for car runners. Door tenders (boys) averaged $14.12. The average for all inside occupations was $28.64. On work outside the colliery the average ranged from $38.72 for engineers to $23.71 for car runners. Slaters (boys) averaged $14.09. The average for all outside occupations combined was $28.13. For the 18,160 workers employed inside and outside the colliery the average was $28.43 per week.

Tonnage or Piece Rates

SINCE information relative to the hours of contract miners is not available except for a small number of companies, it is therefore not practicable to present index numbers of changes of hourly rates or earnings for a period of years for this occupation, as has been done for occupations in other industries. The increase in tonnage or other piece rates over the 1902 piece rates is, however, shown in Table 8. The costs of explosives and of labor are paid from the miners' gross earnings. As these expenses may not have changed since 1902, in the same proportion that the rates have changed, the index numbers should not be construed as representing exact changes in net earnings or rates. It is assumed, however, that they approximately represent the trend of rates and earnings of contract miners.

The rates paid in 1902 differed from colliery to colliery and possibly even within a colliery; the same is true at present. In 1903 the anthracite coal commission made an award by which contract miners were given an increase of 10 per cent over the 1902 rates, and also provided for an additional increase of 1 per cent of the 1903 rate (giving an index of 110) for each 5-cent advance in the April, 1903, wholesale price of coal at New York City. This award continued in effect nine years. During these years, due to the 10 per cent increase and the advances in the wholesale price of coal, contract miners were paid at rates varying from 14.22 per cent (in 1907) to 14.95 per cent (in 1904 and 1911) over those in effect in 1902.

The 1912 agreement eliminated the 1 per cent increase based on the wholesale price of coal and increased the 1903 rate (index 110) 10 per cent, thus making the index 121 for 1912; this continued in effect until March 31, 1916.

The 1916 agreement increased the 1912 rate 7 per cent, making the index 129.47. The 1916 rate was in turn increased by the agreement of April 26, 1917, effective May 1, 1917, by 10 per cent, or to an index of 142.42; by that of November 17, 1917, effective December 1, 1917, by 25 per cent, to an index of 161.84; by that of 1918 (which continued in force until March 31, 1920) by 40 per cent, to an index of 181.26; and by the 1920 award of the anthracite coal commission by 65 per cent, to an index of 213.63. The commission's award continued in effect until August 31, 1923, when the strike of that year was settled, at which time the rate made by the award was increased 10 per cent, to an index of 234.99; this was a little more than 2⅓ times the 1902 rate. No agreement was in force from September 1, 1925, to February 17, 1926, due to the great strike at that time. On February 17, 1926, an agreement was reached to extend the 1923 rates

to August 31, 1930. A further extension was made by the agreement of 1930 by which the 1923 rates and index of 234.99 will continue in effect until March 31, 1936.

TABLE 8.—PERIODS OF WAGE AGREEMENTS AND INDEX NUMBERS OF PIECE OR TONNAGE RATES OF CONTRACT MINERS, 1902 TO 1936

[1902 rate=100]

Period of wage agreement	Index number	Period of wage agreement	Index number
1902	100.00	Apr. 1, 1912 to Mar. 31, 1916	121.00
Apr. 1, 1903 to Mar. 31, 1904	114.40	Apr. 1, 1916 to Apr. 30, 1917	129.47
Apr. 1, 1904 to Mar. 31, 1905	114.95	May 1, 1917 to Nov. 30, 1917	142.42
Apr. 1, 1905 to Mar. 31, 1906	114.31	Dec. 1, 1917 to Oct. 31, 1918	161.84
Apr. 1, 1906 to Mar. 31, 1907	114.58	Nov. 1, 1918 to Mar. 31, 1920	181.26
Apr. 1, 1907 to Mar. 31, 1908	114.22	Apr. 1, 1920 to Aug. 31, 1923	213.63
Apr. 1, 1908 to Mar. 31, 1909	114.40	Sept. 1, 1923 to Aug. 31, 1925	234.99
Apr. 1, 1909 to Mar. 31, 1910	114.49	Feb. 17, 1926 to Aug. 31, 1930 [1]	234.99
Apr. 1, 1910 to Mar. 31, 1911	114.40	Sept. 1, 1930 to Mar. 31, 1936	234.99
Apr. 1, 1911 to Mar. 31, 1912	114.95		

[1] No agreement in force from Aug. 31, 1925, to Feb. 17, 1926, during general strike period.

Importance of Anthracite Mining

TABLE 9, compiled from Coal in 1924, 1926, 1928, and from 1930 preliminary reports published by the United States Bureau of Mines indicates the importance of anthracite mining in number of wage earners, days in operation, gross tons of coal produced, value of total production, and value per gross ton at the collieries or mines, in each of the years 1913 to 1930. Index numbers based on these figures, with the 1913 figure taken as the base, or 100 per cent, are also shown in the table.

During the period covered by the table the number of wage earners decreased from 175,745 in 1913 to 150,804 in 1930 or 14.2 per cent.

The average number of days of operation shows that the opportunity to work was fairly constant up to 1927, since more than 250 days were worked each year from 1913 to 1927 except in 1914, 1915, and when the collieries were closed in 1922, 1925, and 1926 by general strikes. Days of operation declined from the strike year of 1926, in which 244 days were worked, to 225 in 1927, to 217 in 1928, and to 208 days in 1930. The average days of operation by years, strike years excepted, ranged from 208 in 1930 to 293 in 1918.

The number of gross tons of 2,240 pounds produced annually, strike years excepted, ranged from 61,950,747 in 1930 to 88,939,117 in 1917.

The value of annual production at the collieries ranged from $184,653,498 in 1915 to $506,786,768 in 1923. The value per gross ton showed an upward trend from 1913 to 1926, rising in that time from $2.39 to $6.29, but gradually decreased to $5.72 in 1930. In 1930 the value per gross ton at the mine was nearly 2½ times as much as in the basic year 1913.

TABLE 9.—EMPLOYMENT AND PRODUCTION AT ANTHRACITE MINES, AND INDEX NUMBERS THEREOF, BY YEARS, 1913 TO 1930

[1913 average=100]

Year	Number of wage earners	Average number of days collieries were in operation	Gross tons of 2,240 pounds produced	Value at colliery		Index numbers of—				
				Total production	Per ton	Number of wage earners	Average number of days collieries were in operation	Gross tons of 2,240 pounds produced	Value at colliery	
									Total production	Per ton
1913	175,745	257	81,718,680	$195,181,127	$2.39	100.0	100.0	100.0	100.0	100.0
1914	179,679	245	81,090,631	188,181,399	2.32	102.2	95.3	99.2	96.4	97.1
1915	176,552	230	79,459,876	184,653,498	2.32	100.5	89.5	97.2	94.6	97.1
1916	159,869	253	78,195,083	202,009,561	2.58	91.0	98.4	95.7	103.5	107.9
1917	154,174	285	88,939,117	283,650,723	3.19	87.7	110.9	108.8	145.3	133.5
1918	147,121	293	88,237,575	336,480,347	3.81	83.7	114.0	108.0	172.4	159.4
1919	154,571	266	78,653,751	364,926,950	4.64	88.0	103.5	96.2	187.0	194.1
1920	145,074	271	79,998,437	434,252,198	5.43	82.5	105.4	97.9	222.5	227.2
1921	159,499	271	80,779,867	452,304,903	5.60	90.8	105.4	98.9	231.7	234.3
1922	156,849	[1] 151	48,824,127	273,700,125	5.61	89.2	[1] 58.8	59.7	140.2	234.7
1923	157,743	[2] 268	83,338,401	506,786,768	6.08	89.8	[2] 104.3	102.0	259.6	254.4
1924	160,009	274	78,506,127	477,230,852	6.08	91.0	106.6	96.1	244.5	254.4
1925	160,312	[3] 182	55,193,883	327,664,512	5.94	91.2	[3] 70.8	67.5	167.9	248.5
1926	165,386	[4] 244	75,390,582	474,164,252	6.29	94.1	[4] 94.9	92.3	242.9	263.2
1927	165,259	225	71,513,896	420,941,726	5.89	94.0	87.5	87.5	215.7	246.4
1928	160,681	217	67,275,062	393,637,690	5.85	91.4	84.4	82.3	201.7	244.8
1929	151,501	225	65,918,031	385,642,751	5.85	86.2	87.5	80.7	197.6	244.8
1930	150,804	208	61,950,747	354,574,191	5.72	85.8	80.9	75.8	181.7	239.3

[1] Collieries closed 138 days by general strike of 142,442 of the employees. Maintenance employees were not included in the strike orders.

[2] Collieries closed 19 days by general strike of 135,585 of the employees. Maintenance employees were not included in the strike orders.

[3] Collieries closed 103 days by general strike of 147,928 of the employees. Maintenance employees were not included in the strike orders.

[4] Collieries closed 41 days by general strike of 145,376 of the employees. Maintenance employees were not included in the strike orders.

Wage-Rate Changes in Manufacturing Industries in February, 1932

OF THE 16,891 manufacturing establishments from which data concerning employment were received, 15,996, or 94.7 per cent of the total number of establishments, reported no changes in wage rates during the month ending February 15, 1932. A total of 891 establishments, or 5.3 per cent of the total number, reported decreases in wage rates averaging 10.5 per cent and affecting 108,844 employees, or 3.8 per cent of all the employees. Wage-rate increases averaging 9.8 per cent were reported by 4 establishments affecting 60 employees.

WAGE CHANGES OCCURRING BETWEEN JANUARY 15 AND FEBRUARY 15, 1932

Industry	Establishments reporting	Total number of employees	Number of establishments reporting			Number of employees having		
			No wage changes	Wage increases	Wage decreases	No wage changes	Wage increase	Wage decrease
All manufacturing industries	16,891	2,833,890	15,996	4	891	2,724,986	60	108,844
Per cent of total	100.0	100.0	94.7		5.3	96.2		3.8
Slaughtering and meat packing	217	85,201	203		14	84,169		1,032
Confectionery	331	32,721	323		8	31,261		1,460
Ice cream	325	10,303	315		10	10,196		107
Flour	436	15,303	410		26	14,711		592
Baking	844	58,818	819		25	57,753		1,065
Sugar refining, cane	14	7,826	14			7,826		
Beet sugar	38	1,725	38			1,725		
Beverages	294	9,169	292		2	9,138		31
Butter	234	4,451	229		5	4,193		258
Cotton goods	546	194,193	504		42	180,067		14,126
Hosiery and knit goods	420	100,867	408		12	99,089		1,778
Silk goods	268	50,050	254		14	48,565		1,485
Woolen and worsted goods	202	52,819	188		14	50,406		2,413
Carpets and rugs	32	14,824	32			14,824		
Dyeing and finishing textiles	146	37,712	136		10	36,232		1,480
Clothing, men's	347	59,055	333		14	57,129		1,926
Shirts and collars	113	14,584	107		6	14,243		341
Clothing, women's	399	27,843	390		9	26,942		901
Millinery	125	10,348	120		5	9,829		519
Corsets and allied garments	31	5,809	31			5,809		
Cotton small wares	103	9,833	99	1	3	9,715	4	114
Hats, fur-felt	36	5,236	32		4	5,032		204
Men's furnishings	78	7,328	76		2	7,253		75
Iron and steel	209	205,457	206		3	204,355		1,102
Cast-iron pipe	41	7,891	38		3	7,338		553
Structural-iron work	181	18,869	172		9	18,659		210
Hardware	104	24,947	99		5	24,319		628
Steam fittings, and steam and hot-water heating apparatus	113	21,443	107		6	20,813		630
Stoves	139	13,809	134		5	13,587		222
Bolts, nuts, washers, and rivets	61	7,763	55		6	7,475		288
Cutlery and edge tools	111	9,831	107		4	9,724		107
Forgings, iron and steel	52	5,595	51		1	5,570		25
Plumbers' supplies	68	5,065	62	1	5	4,795	6	264
Tin cans and other tinware	53	6,987	52		1	6,948		39
Tools, not including edge tools	123	8,399	120		3	8,367		32
Wirework	60	4,571	58		2	4,550		21
Lumber, sawmills	600	59,494	571		29	55,773		3,721
Lumber, millwork	361	18,885	341		20	18,417		468
Furniture	453	49,145	424		29	46,664		2,481
Turpentine and rosin	21	984	20		1	975		9
Leather	155	23,997	151		4	23,548		449
Boots and shoes	308	105,951	300		8	105,264		687
Paper and pulp	405	78,717	402		3	78,437		280
Paper boxes	312	21,951	296		16	21,142		809
Printing, book and job	669	51,432	634		35	49,950		1,482
Printing, newspapers and periodicals	442	67,320	424		18	65,163		2,157
Chemicals	120	21,219	118		2	21,065		154
Fertilizers	205	7,976	197	2	6	7,806	50	120
Petroleum refining	105	44,842	104		1	44,720		122
Cottonseed oil, cake, and meal	44	2,656	44			2,656		
Druggists' preparations	29	6,745	29			6,745		

WAGE CHANGES OCCURRING BETWEEN JANUARY 15 AND FEBRUARY 15, 1932—Continued

Industry	Establishments reporting	Total number of employees	Number of establishments reporting			Number of employees having		
			No wage changes	Wage increases	Wage decreases	No wage changes	Wage increase	Wage decrease
Explosives	22	3,164	22			3,164		
Paints and varnishes	340	15,237	332		8	15,031		206
Rayon	21	26,650	21			26,650		
Soap	66	9,316	65		1	9,304		12
Cement	122	14,298	119		3	14,024		274
Brick, tile, and terra cotta	690	18,676	680		10	18,052		624
Pottery	110	15,240	107		3	14,820		420
Glass	191	37,389	178		13	35,776		1,613
Marble, granite, slate, etc	222	5,454	217		5	5,344		110
Stamped and enameled ware	86	13,502	82		4	12,832		670
Brass, bronze, and copper products	176	30,714	161		15	29,767		947
Aluminum manufactures	25	5,560	24		1	5,471		89
Clocks, clock movements, etc	20	3,947	19		1	3,918		29
Gas and electric fixtures	47	4,942	43		4	4,591		351
Plated ware	50	7,761	49		1	7,724		37
Smelting and refining, copper, lead, and zinc	26	8,988	26			8,988		
Jewelry	143	8,788	140		3	8,679		109
Chewing and smoking tobacco and snuff	29	9,522	29			9,522		
Cigars and cigarettes	207	47,977	205		2	47,925		52
Automobiles	241	259,290	230		11	255,426		3,864
Aircraft	35	6,406	33		2	6,253		153
Cars, electric and steam railroad	33	4,899	33			4,899		
Locomotives	15	3,610	15			3,610		
Shipbuilding	95	33,276	95			33,276		
Rubber tires and inner tubes	37	45,425	35		2	44,765		660
Rubber boots and shoes	11	11,831	11			11,831		
Rubber goods, other than boots and shoes, tires, and inner tubes	92	18,556	90		2	18,218		338
Agricultural implements	71	8,912	70		1	8,857		55
Electrical machinery, apparatus, and supplies	246	130,362	238		8	128,686		1,676
Engines, turbines, and water wheels	68	14,685	65		3	14,426		259
Cash registers and calculating machines	49	16,261	48		1	16,221		40
Foundry and machine shop products	1,026	121,236	953		73	114,661		6,575
Machine tools	145	15,168	141		4	15,073		95
Textile machinery and parts	35	9,115	30		5	8,883		232
Typewriters and supplies	17	10,942	16		1	10,914		28
Radio	43	18,254	42		1	18,201		53
Electric-railroad repair shops	445	24,428	432		13	23,843		585
Steam-railroad repair shops	471	76,150	231		240	34,429		41,721

Wage Changes Reported by Trade-Unions Since December, 1931

THE table following shows wage changes for trade-unions and municipalities reported during the past month and covering the months of December to March, inclusive.

The number of workers covered is 42,946, of whom 22,222 were reported to have gone on the 5-day week.

In addition to these, renewals of wage agreements were reported for barbers and beauticians, Brooklyn, N. Y.; truck drivers, Cleveland, Ohio; compositors in Danbury, Conn., Elgin, Ill., Hagerstown, Md., and Morgantown, W. Va.; gravure workers, New York City; and stereotypers and electrotypers in Atlanta, Ga., Nashville, Tenn., and Scranton, Pa.

RECENT WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, DECEMBER, 1931, TO MARCH, 1932

Industry or occupation, and locality	Date of change	Rate of wages		Hours per week	
		Before change	After change	Before change	After change
Bakers:		*Per week*	*Per week*		
Brockton, Mass.	Dec. 28	$42.00	$38.85	48	48
		38.00	35.15	48	48
		36.00	33.30	48	48
Burlington, Iowa	Mar. 1	37.50	33.75	48	48
		30.00	27.00	48	48
		28.00	25.20	48	48
Building trades:					
Asbestos workers—		*Per hour*	*Per hour*		
Cincinnati, Ohio, and vicinity	Feb. 21	1.32½	1.15	40	40
Portland, Oreg.	Jan. 2	1.25	1.00	40	40
Bricklayers and masons—					
Baltimore, Md., and vicinity	Feb. 1	1.75	1.25	40	40
Chicago, Ill., and vicinity	Mar. 11	1.70	1.37½	40	40
Marion, Ohio, and vicinity	Feb. 20	1.50	1.25	44	44
Carpenters—					
Erie, Pa.	Jan. 4	1.15	1.00	40	40
Galesburg, Ill.	Mar. 1	1.12½	[1] 1.00	44	44
Manitowoc, Wis.	Jan. 13	.90	.75	44	44
Pittsburgh, Pa., and vicinity	Feb. 1	1.50	1.25	40	40
Portland, Oreg., and vicinity	Jan. 2	1.12½	.90	40	40
Providence, R. I., and vicinity	Feb. 1	1.17½	1.00	44	44
Shreveport, La.	do	1.12½	[1] .95	44	44
Cement finishers—					
Chicago, Ill.	Mar. 11	1.62½	1.31¼	44	40
Erie, Pa.	Jan. 4	1.62½	1.31¼	40	40
Portland, Oreg.	Jan. 2	1.50	1.20	40	40
Electrical workers, Portland, Oreg., and vicinity.	Jan. 1	1.25	1.00	40	40
Engineers—					
Hoisting engineers and shovel runners, Chicago, Ill., and vicinity.	Mar. 11	1.62½	1.31¼	44	40
Shovel operators, Portland, Oreg.	Jan. 2	1.50	1.25	48	48
Hod carriers and laborers—					
Chicago and Cook County, Ill.	Mar. 11	.97½	.82½	44	40
Stamford, Conn., and vicinity	Jan. 26	1.12½	.87½	44	44
		1.00	.75	44	44
Lathers—					
Chicago, Ill.	Mar. 11	1.70	1.37½	40	40
Erie, Pa.	Jan. 1	1.37½	1.12½	40	40
Portland, Oreg.	do	1.37½	1.10	40	30–32
Painters, decorators, and paperhangers—					
Elmira, N. Y.	Feb. 15	1.12½	1.00	40	40
Erie, Pa.	Jan. 7	1.05	.90	40	40
Pawtucket, R. I.	Feb. 15	1.12½	.90	40	40
Peoria, Ill., and vicinity	Jan. 27	1.00	.87½	44	44
Portland, Oreg., and vicinity—Glaziers.	Jan. 2	1.06¼	.85	44	44
Visalia, Calif.	Feb. 15	1.00	.87½	[2]	[2]
Plasterers—					
Baltimore, Md.	Mar. 1	1.75	1.25	40	40
Erie, Pa.	Jan. 4	1.62½	1.31¼	40	40
Portland, Oreg.	Jan. 2	1.50	1.20	40	40
Visalia, Calif.	Feb. 15	1.37½	1.25	[2]	[2]
Plumbers—					
Dayton, Ohio	Jan. 29	1.37½	1.16	40	40
Grand Rapids, Mich.	Dec. 1	1.12½	.90	40	40
Portland, Oreg.	Jan. 2	1.37½	1.10	40	40
Springfield, Mass., and vicinity	Feb. 15	1.25	1.00	40	40
Stockton, Calif.	Jan. 4	1.18¾	1.06¼	[3] 8	[3] 8
Visalia, Calif.	Feb. 15	1.25	1.00	[2]	[2]
Roofers—					
Cincinnati, Ohio, and vicinity	Feb. 21	1.15	.92	40	40
Portland, Oreg.	Jan. 2	1.12½	.90	44	44
Sheet-metal workers—					
Cincinnati, Ohio	Mar. 1	1.25	1.07½	40	40
Furnace setters	do	1.25	1.07½	40	40
Portland, Oreg.	Jan. 2	1.25	1.00	40	40
Structural-iron workers—					
Chicago, Ill.	Mar. 11	1.67½	1.35	44	40
Portland, Oreg.	Jan. 2	1.37½	1.10	40	40
Reinforced concrete workers	do	1.12½	.90	40	40
Tile layers, Cincinnati, Ohio	Mar. 1	1.50	1.25	40	40

[1] Temporary. [2] Not reported. [3] Hours per day.

RECENT WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, DECEMBER, 1931, TO MARCH, 1932—Continued

Industry or occupation, and locality	Date of change	Rate of wages		Hours per week	
		Before change	After change	Before change	After change
Chauffeurs and teamsters:					
Furniture and department store drivers, Chicago, Ill	Jan. 1	*Per day* $6.66⅔	*Per day* $6.00	54	54
Furniture:					
Wood carvers, Boston, Mass	Dec. 1	*Per hour* [4] 1.37½	*Per hour* [4] 1.10	40	40
Hotel and restaurant workers:					
Waitresses, St. Louis, Mo	Mar. 1	*Per week* 12.50 15.00	*Per week* 11.25 13.50	48 48	48 48
Printing and publishing:					
Compositors—					
Birmingham, Ala.—					
Newspaper, day	Feb. 1	*Per hour* 1.02½	*Per hour* 0.95	42–48	42–48
Newspaper, night	do	1.08½	1.01	42–48	42–48
Greenville, S. C.—					
Day work	Jan. 27	*Per week* 41.00	*Per week* 38.00	48	48
Night work	do	44.00	41.00	48	48
Santa Ana, Calif.—					
Newspaper, day	Jan. 11	45.00	40.50	45	45
Newspaper, night	do	48.00	43.20	45	45
Shawnee, Okla.—					
Newspaper, day	Mar. 21	40.00	40.50	45	45
Newspaper, night	do	43.00	43.50	45	45
Springfield, Mass	Feb. 1	[2]	[2]	45	37½
Mailers, Tacoma, Wash	Jan. 4	*Per day* 6.50	*Per day* 5.85	42	42
Street railway workers:					
Motormen and conductors, Jackson, Mich	Feb. 1	*Per hour* 0.51	*Per hour* 0.41	54	54
Car and bus drivers, Kalamazoo, Mich	Jan. 1	.49½–.51	.41	[3] 8–10	[3] 8–10
Car and bus drivers, repairmen, and trainmen, Pittsfield, Mass	Feb. 13	.66⅔	.60	63	56
Municipal workers:					
Athens, Ga	Jan. 1	[2]	[5]	[2]	[2]
Crawford County, Pa	do	[2]	[6]	[2]	[2]
Jackson County, Mich., county officials	do	[2]	[6]	[2]	[2]
Klamath Falls, Oreg	do	[2]	[7]	[3] 8	[3] 8
Livingston, Tex	Feb. 1	[2]	[8]	[2]	[2]
Monroe County, Mich	Jan. 15	*Per month* 95.00–250.00	*Per month* 85.50–225.00	[2]	[2]
Nashua, N. H	Feb. 9	[2]	[9]	[2]	[2]
New York, N. Y.—					
City hospital employees	Feb. 1	*Per day* 11.00–14.00	*Per day* 11.00–14.00	48	40
Sanitation department mechanics	Jan. 8	[2]	[2]	44–56	40
Pawtucket, R. I., city laborers, drivers, teamsters	Mar. 1	*Per hour* 0.40–0.65	*Per hour* 0.40–0.65	48	40
Sacramento, Calif., city laborers	Feb. 1	[2]	[2]	48	40
Sandusky County, Ohio	do	[2]	[9]	41½	41½

[2] Not reported.
[3] Hours per day.
[4] Minimum.
[5] 10 per cent reduction.
[6] 5 per cent reduction.
[7] 10 to 20 per cent reduction.
[8] 16 per cent reduction.
[9] Approximately 10 per cent reduction.

Salaries of Library Employees in California

A STUDY of the salaries, education, and experience records of library employees in California as of May 1, 1930, was made by the bureau of public administration of the University of California at the request of the executive committee of the library association of that State. The results of the investigation are now available in pamphlet form.

Of the 3,000 questionnaires sent out, 2,100 were returned, but as 546 of these were not properly filled out only 1,554 were used by the tabulators. High-school librarians were not included in the study

as their salary scale is similar to that generally paid to secondary-school teachers in 45 "city" school districts in California, averaging approximately $2,570, or about $1,000 above the median salary of other library employees.

The classification of positions used in the survey is in substance the same as that given in the report of the salary committee of the California Library Association in April, 1920, namely, librarian, assistant librarian, department head, senior assistant, and junior assistant.

For the purposes of the investigation the public libraries were arbitrarily classified as follows: Large (10 or more full-time assistants), medium-sized (3 to 9 full-time assistants), and small (1 to 2 full-time assistants).

The distribution of the workers according to positions is shown in the table following:

CLASSIFICATION OF 1,554 LIBRARY EMPLOYEES IN CALIFORNIA, BY POSITION AND TYPE OF LIBRARY, MAY 1, 1930

Type of library	Librarians	Assistant librarians	Department heads	Assistants		Unclassified county assistants	Total
				Senior	Junior		
Public:							
Large	22	9	173	351	351		906
Medium	24	16	27	0	21		88
Small	45	0	0	0	17		62
County	38	19	60	51	39	29	236
University or State	4	3	29	46	67		149
Special	31	0	0	0	28		59
Small college	18	0	0	36	0		54
Total	182	47	289	484	523	29	1,554

The range of annual median salaries for the 1,554 employees is from $975 to $5,300, the median salary for all being $1,573. The salaries for various positions are given in the following table:

ANNUAL MEDIAN SALARIES OF 1,554 LIBRARY EMPLOYEES IN CALIFORNIA, AS OF MAY 1, 1930

[Amounts given to the nearest dollar]

Type of library	Librarians	Assistant librarians	Department heads	Assistants		Unclassified county assistants
				Senior	Junior	
Public:						
Large	$3,075	$2,150	$2,061	$1,624	$1,086	
Medium	2,000	1,525	1,336		1,050	
Small	1,250				975	
County	2,133	1,650	1,850	1,647	1,335	$1,208
University or State	5,300	3,750	2,550	2,011	1,587	
Special	1,950				1,567	
Small college	2,600			1,822		

From the above figures it will be noted that university and State libraries pay the highest salaries. The large public libraries rank next in the three highest types of positions, but for senior and junior positions hold only the fourth place. The small college libraries rank second for median salaries for senior assistants, probably because of the fact that there are no department heads in these libraries and that such assistants must carry a heavier responsibility than falls to these positions in the larger libraries.

Although the main purpose of the survey was to secure data on the salaries of library workers, the returned questionnaire disclosed "that there is apparently no standard type of library organization within the State. Even libraries of approximately the same size differ in organization to such an extent that it was extremely difficult, in tabulating the returns, to fit the employees into the classification of positions which appeared in the questionnaire."

Furthermore, a great deal of variation in education and in professional training was found among library workers doing seemingly the same class of work. It is suggested in the report that this situation may be the result of the absence of standardized nomenclature, of uniform educational requirements, both professional and general, and possibly of an inadequate supply of qualified workers.

Wages and Hours of Labor in Canada, 1930 and 1931

THE following statistics are taken from a report on wages and hours of labor in Canada, 1926, 1930, and 1931, published as a supplement to the January, 1932, issue of the Canadian Labor Gazette (Ottawa):

TABLE 1.—INDEX NUMBERS OF RATES OF WAGES OF VARIOUS CLASSES OF LABOR IN CANADA, 1921 TO 1931

[1913=100]

Industry	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Building trades [1]	170.5	162.5	166.4	169.7	170.4	172.1	179.3	185.6	197.5	203.2	195.7
Metal trades [2]	186.8	173.7	174.0	175.5	175.4	177.4	178.1	180.1	184.6	186.6	182.9
Printing trades [3]	193.3	192.3	188.9	191.9	192.8	193.3	195.0	198.3	202.3	203.3	205.1
Electric railway [4]	192.1	184.4	186.2	186.4	187.8	188.4	189.9	194.1	198.6	199.4	198.6
Steam railway [5]	195.9	184.4	186.4	186.4	186.4	186.4	198.4	198.4	204.3	204.3 [6]	199.2
Coal mining [7]	208.3	197.8	197.8	192.4	167.6	167.4	167.9	168.9	168.9	169.4	169.4
Simple average	191.2	182.4	183.3	183.7	179.7	180.5	184.3	187.6	192.7	194.4	191.8
Common factory labor [8]	190.6	183.0	181.7	183.2	186.3	187.3	187.7	187.1	187.8	188.2	183.4
Miscellaneous factory trades [8]	202.0	189.1	196.1	197.6	195.5	196.7	199.4	200.9	202.1	202.3	197.3
Logging and saw milling [8]	152.6	158.7	170.4	183.1	178.7	180.8	182.8	184.3	185.6	183.9	163.0

[1] 8 trades from 1921 to 1926, 9 for 1927 to 1931.
[2] 5 trades from 1921 to 1926, 4 for 1927 to 1931.
[3] 4 trades for 1921 and 1922, 6 from 1923 to 1931.
[4] 5 classes.
[5] 23 classes.
[6] Including a 10 per cent decrease for certain classes toward the end of the year.
[7] 12 classes.
[8] The number of samples has been increased each year since 1920.

Table 2 shows the rates of wages paid and hours worked in various occupations in six Canadian cities in 1930 and 1931:

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1930 AND 1931

Occupation	Toronto		Winnipeg		Vancouver	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
Building trades						
Bricklayers:	*Per hour*		*Per hour*		*Per hour*	
1930	$1.35	44	$1.45	44	$1.35	40
1931	1.10	44	1.35	44	1.35	40
Carpenters:						
1930	1.10	44	1.10	44	1.00	44
1931	1.10	44	1.00	44	1.00	44
Electrical workers:						
1930	1.25	44	1.10	44	1.00–1.17½	40–44
1931	1.25	44	1.00	44	1.00–1.17½	40–44
Painters:						
1930	.85–.90	44	.95	44	.90	44
1931	.75–.85	44	.85	44	.80	40–44
Plasterers:						
1930	1.37½	40	1.45	44	1.35	40
1931	1.12½	40	1.45	44	1.28½	40
Plumbers:						
1930	1.25	40–44	1.25	44	1.25	40
1931	1.25	40	1.15	44	1.12½	40
Sheet-metal workers:						
1930	1.15	44	.90	44	1.12½	44
1931	1.07½	44	.85	44	1.06¼	40–44
Stonecutters:						
1930	1.25	44	1.25	44	1.25	40
1931	1.25	44	1.15	44	1.25	40
Laborers:						
1930	.40–.65	44–60	.42½–.50	44–60	.50–.62½	44
1931	.40–.60	44–60	.40–.50	44–60	.50	44
Street railways						
Conductors and motormen:						
1930 [1]	[2].60	48	[4].60	48	[5].63	48
1931 [1]	[2].60	48	[4].60	42	[5].63	48
Linemen:						
1930	.72–.78	44	.92½	44	.97	44
1931	.72–.78	40–48	.92½	44	.97	44
Shedmen:						
1930	.54–.56	44	.51½–.59	44	.52	44–48
1931	.54–.56	42	.51½–.59	42	.52	44–48
Electricians:						
1930	.55–.65	44	.61	44	.70	44
1931	.55–.65	37½	.62	42	.70	44
Trackmen and laborers:						
1930	.45–.59	48	.35–.45	44	.50–.59	44
1931	.45–.59	40	.35–.45	44	.45½–.59	44
Printing trades						
Compositors, machine and hand, news:	*Per week*		*Per week*		*Per week*	
1930	47.50	46½	47.00	46	48.00	45
1931	47.50	46½	47.00	46	48.00	45
Compositors, machine and hand, job:						
1930	35.00–42.00	44–48	39.60	44–48	45.00	44–48
1931	35.00–42.00	44–48	39.60	44–48	45.00	44–48
Pressmen, news:						
1930	46.50	48	45.00	48	48.00	48
1931	46.50	48	46.00	48	48.00	48
Pressmen, job:						
1930	36.00–42.00	44–48	39.60	44–48	45.00	44–48
1931	36.00–42.00	44–48	39.60	44–48	45.00	44–48
Bookbinders:						
1930	36.00–40.00	44–48	35.00–40.00	44–48	45.00	44–48
1931	36.00–40.00	44–48	35.00–40.00	44–48	45.00	44–48
Bindery girls:						
1930	16.80–18.00	48	12.00–18.00	44–48	23.00	44–48
1931	16.80–18.00	48	12.00–18.00	44–48	23.00	44–48

See footnotes at end of table.

TABLE 2.—RATES OF WAGES AND HOURS OF LABOR PER WEEK IN VARIOUS OCCUPATIONS IN SPECIFIED CANADIAN CITIES, 1930 AND 1931—Continued

Occupation	Quebec		Montreal		Ottawa	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
Building trades						
Bricklayers:	*Per hour*		*Per hour*		*Per hour*	
1930	$1.00	44–54	$1.20	44	$1.25	44
1931	1.00	44–54	1.00–1.20	44	1.25	44
Carpenters:						
1930	.50–.60	44–54	.75–.85	44–55	.90	44
1931	.50–.60	44–54	.65–.85	44–55	.90	44
Electrical workers:						
1930	.50–.65	44–54	.75–.90	44–46½	.80	44
1931	.50–.65	44–54	.75–.90	44–46½	.80	44
Painters:						
1930	.50–.60	44–54	.65–.85	44–49½	.70	44
1931	.50–.60	44–54	.65–.85	44–49½	.70	44
Plasterers:						
1930	1.00	44–54	1.05	44–49½	1.00	44
1931	1.00	44–54	.85–1.05	44–49½	1.00	44
Plumbers:						
1930	.50–.60	44–60	.90	44	1.05	44
1931	.50–.60	44–54	.90	44	1.05	44
Sheet-metal workers:						
1930	.50–.65	44–54	.80	44	1.00	44
1931	.50–.60	44–54	.80	44	1.00	44
Stonecutters:						
1930	.60–.80	44–60	.75–1.00	44	1.05	44
1931	.60–.80	44–55	.75–1.00	44	1.05	44
Laborers:						
1930	.30–.45	44–60	.35–.45	44–60	.45–.50	44–54
1931	.30–.45	44–60	.30–.40	44–60	.45–.50	44–54
Street railways						
Conductors and motormen:						
1930 [1]	[2].50	60	.55	70	[3].50	50
1931 [1]	[2].50	60	.55	70	[3].49	49½
Linemen:						
1930	.45–.50	66½	.55	60	.50	54
1931	.45–.50	66½	.55	48	.51	48
Shedmen:						
1930	.34–.60	47–70	.34–.57	63–70	.39 –.51	54
1931	.34–.60	47–70	.34–.57	59–67	.39½–.52	48
Electricians:						
1930	.45–.54	47	.55–.61	50	.55	54
1931	.45–.54	47	.55–.61	45	.56	48
Trackmen and laborers:						
1930	.35	60	.35–.39	54	.38 –.48	54
1931	.35	60	.35	48	.38½–.49	48
Printing trades						
Compositors, machine and hand, news:	*Per week*		*Per week*		*Per week*	
1930	31.00	48	38.00–44.00	48	44.00	46½
1931	32.50	48	38.00–44.00	48	44.00	46½
Compositors, machine and hand, job:						
1930	31.00	48	36.00–42.00	44–48	35.00–40.00	44–48
1931	32.50	48	36.00–42.00	44–48	35.00–40.00	44–48
Pressmen, news:						
1930	33.00	48	35.00–40.00	48	43.00	48
1931	33.00	48	35.00–40.00	48	43.00	48
Pressmen, job:						
1930	28.00–32.00	48	36.00–40.00	48	35.00–40.00	44–48
1931	28.00–32.00	48	36.00–40.00	48	35.00–40.00	44–48
Bookbinders:						
1930	27.00–35.00	48	33.75	48	34.00–37.00	48
1931	27.00–35.00	48	33.75	48	34–00–37.00	48
Bindery girls:						
1930	9.00–15.00	48	15.00	48	13.50	48
1931	9.00–15.00	48	15.00	48	13.50	48

[1] Maximum rates.
[2] 1-man car operators, 5 cents extra per hour.
[3] 1-man car operators, 5 cents extra per hour. Payment for actual time worked with a minimum of 8¼ hours per day instead of 9 hours as formerly, most runs being less than 9 hours, resulting in a 10 per cent reduction in earnings. In other classes daily earnings were reduced 10 per cent and hours to 8 per day.
[4] 1-man car operators, 5½ cents extra per hour.
[5] 1-man car operators, 6 cents extra per hour.

Rates of wages paid to certain groups of railroad employees are shown in Table 3:

TABLE 3.—RATES OF WAGES OF CANADIAN STEAM-RAILROAD EMPLOYEES, 1927-1928 AND 1929-1931

Occupation	Train service (cents per mile)		Occupation	Engine service (cents per mile)	
	1927-1928	1929-1931 [1]		1927-1928	1929-1931 [1]
Conductors:			Locomotive engineers:		
Passenger	4.47	4.47-4.72	Passenger	6.16-7.16	6.16-7.16
Freight, through	6.16	6.16-6.25	Freight	6.84-8.76	6-84-8.76
Freight, way	6.68	6.68-7.11	Locomotive firemen:		
Brakemen:			Passenger	4.56-5.76	4.56-5.76
Passenger	3.13	3.13-3.18	Freight	5.00-6.51	5.00-6.51
Freight, through	4.84	4.84-4.91			
Freight, way	5.24	5.24-5.31			

[1] Employees reduced 10 per cent toward end of 1931.

In Table 4 daily wages in coal mining in Canada for 1928–1929 and 1930–1931 are presented. The 8-hour day prevails except for surface laborers, machinists, carpenters, and blacksmiths in Nova Scotia, whose day is 8½ hours.

TABLE 4.—WAGES IN COAL MINING IN CANADA, 1928-1929 AND 1930-1931

Locality and occupation	Daily wages [1]		Locality and occupation	Daily wages [1]	
	1928-1929	1930-1931		1928-1929	1930-1931
Nova Scotia [2]			*Alberta*—Continued		
Contract miners	[3] $6.65	[4] $6.70	Laborers, underground	$4.40-$4.67	$4.40-$4.67
Hand miners	[5] 4.15	[5] 4.15	Laborers, surface	4.15-4.41	4.15-4.41
Hoisting engineers	4.15	4.25	Machinists	4.85-5.77	4.85-5.77
Drivers	3.60	3.60	Carpenters	5.45-5.77	5.45-5.77
Bratticemen	3.65	3.73	Blacksmiths	5.45-5.77	5.45-5.77
Pumpmen	3.90	3.93			
Laborers, underground	3.35	3.45	*Vancouver Island* [7]		
Laborers, surface	3.25	3.40			
Machinists	4.15	4.15	Contract miners	[3] 6.75	[3] 6.82
Carpenters	3.85	3.88	Machine miners	[5] 4.81	[5] 4.81
Blacksmiths	4.00	4.05	Hand miners	[5] 4.52	[5] 4.52
			Hoisting engineers	5.39	5.39
Alberta [6]			Drivers	4.13	4.13
			Bratticemen	4.35	4.35
Contract miners	[3] 7.85	[3] 7.69	Pumpmen	3.96	3.96
Machine miners	[5] 5.85-7.00	[5] 5.85-7.00	Laborers, underground	3.97	3.97
Hand miners	[5] 5.20-5.57	[5] 5.20-5.57	Laborers, surface	3.76	3.76
Hoisting engineers	5.65-6.20	5.65-6.20	Machinists	5.40	5.40
Drivers	4.85-5.25	4.85-5.25	Carpenters	4.83	4.83
Bratticemen	5.20-5.57	5.20-5.57	Blacksmiths	5.11	5.11
Pumpmen	4.40-4.95	4.40-4.95			

[1] Some engineers, pumpmen, firemen, etc., work 7 days per week.
[2] In Nova Scotia in most of the mines from February 1, 1928, to January 31, 1930, a bonus to be paid quarterly in profits was agreed upon.
[3] Average earnings per day on contract, per ton, etc., certain collieries only; approximate.
[4] Average earnings per day on contract, per ton, etc.
[5] Minimum rate per day when not working on contract, per ton, yard, etc.
[6] Including also 3 mines in Southeastern British Columbia.
[7] No figures for Chinese employees included.

Wages in the French Hair Industry

A REPORT from Marjorie Swartsel, consular clerk at the American consulate general in Paris, dated December 15, 1931, gives an account of wages and working conditions in the manufacture of toupees and transformations in France.

France has been preeminent in the hair industry for many years and formerly a large number of workers were employed in the manufacture of these hair products. Since the war, however, the industry has been greatly affected by changing styles in hairdressing, notably by the fashion for bobbed hair and by improvements in the methods of waving hair. In 1872 there were about 1,200 master "perruquiers" in Paris, employing about 6,000 workers, while at the present time the industry is concentrated in a few firms that cater to people of wealth, about 10 wholesale houses, and a number of hairdressers doing a small amount of business along this line as a side issue.

There will always be a certain demand for toupees and transformations owing to baldness, accidents, stage needs, etc., and according to information given by the highest-class firm of this kind in Paris, employing 180 workers, the number of articles of this kind sold by it in one year amounts to approximately 6,000 at a cost ranging from $24 to $100 each. There are only three of four firms in Paris to-day which are occupied solely in the manufacture of transformations. One of these, with several branches in other parts of the country, sells about 5,000 a year, at prices varying from $5 to $20 each; in 1920, a similar establishment sold about 39,000 in that one year.

The hair used in the transformations is divided into three grades, fine cut hair, combings, and hair imported from China. The cut hair is the most important and is used entirely in the manufacture of products of the first quality. The process of preparing the hair for use in the transformations requires much time and great patience. As there are often five or six shades in one head of hair the hair is sorted according to its color as well as length and quality, then put into a card to be thoroughly combed, after which it is washed so that each hair is cleaned. The actual making of the transformations requires most painstaking care, each hair being attached to the net foundation with a double knot so that it looks like the natural hair root. The part, especially, requires great skill and frequently takes as long as 8 days to perfect.

Since the war there has been great improvement in the working conditions of those employed in the hair industry. They have been taken from dark, poorly ventilated rooms and placed in more hygienic work places, the hours have been reduced from 12 to 8 per day, and their pay has been increased. The wages paid vary, according to the location and standing of the firm and the type of work, from 25 francs to 40 francs ($0.98 to $1.57) per day, while experienced workers who are skilled in setting the hair and giving form to the transformation may earn as much as 1,500 francs ($58.80) per month. A good deal of the work is done by home workers who are paid by the piece. Earnings of these workers may reach 100 francs ($3.92) per week, but are often less. In only one firm in France is the work done entirely under supervision. This firm, which is the largest exporter to the United States, has a main office in Paris and three large factories in the Provinces. The hair is prepared and handled from start to finish in

the factories and all purchase and production is on a quantity basis. Labor is cheaper outside of Paris and workers are paid as little as 20 francs (78.4 cents) per day. In 1929, the last year for which statistics are available, about half of the prepared hair exported from France was purchased in the United States at a value of 3,509,000 francs ($137,553).

Wages in Tokyo in December, 1931

THE wages of Tokyo workers in December, 1931, in various occupations are shown in the following table.[1] The figures are taken from the December, 1931, issue of the Monthly Report on Current Economic Conditions, published by the Tokyo Chamber of Commerce and Industry.

DAILY WAGES IN TOKYO, DECEMBER, 1931

[Conversion into United States currency on basis of yen = 50 cents]

Occupation	Daily wage		Index numbers (Dec., 1930=100)
	Japanese currency	U. S. currency	
Textile industry:	*Yen*		
Silk reelers, female	0.75	$0.38	86.2
Cotton spinners, female	.95	.48	87.2
Silk throwers, female	.88	.44	95.7
Cotton weavers, machine, female	.78	.39	80.4
Silk weavers, hand, female	1.30	.65	96.3
Hosiery knitters, male	2.60	1.30	130.0
Hosiery knitters, female	1.40	.70	127.3
Metal industry:			
Lathemen	3.26	1.63	100.6
Finishers	3.51	1.76	102.3
Founders	3.26	1.63	116.0
Blacksmiths	2.91	1.46	111.1
Wooden-pattern makers	3.54	1.77	106.6
Stone, glass, and clay products:			
Cement makers	2.54	1.27	103.3
Glassmakers	2.49	1.25	97.3
Potters	1.75	.88	100.0
Tile makers (shape)	1.40	.70	96.6
Chemical industry:			
Match makers, male	1.15	.58	74.2
Match makers, female	.65	.33	86.7
Oil pressers	1.45	.73	96.7
Paper industry:			
Makers of Japanese paper	1.50	.75	100.0
Makers of printing paper	1.75	.88	91.6
Leather industry: Leather makers	2.95	1.48	102.8
Food industry:			
Flour millers	1.89	.95	100.0
Sake brewery workers	1.20	.60	80.0
Soy brewery workers	2.10	1.05	91.3
Sugar-refinery workers	2.39	1.20	100.0
Food industry—Continued.			
Confectioners (Japanese cake)	*Yen* 1.81	$0.91	105.2
Canners	1.68	.84	100.0
Wearing apparel industry:			
Tailors (European dress)	2.46	1.23	100.0
Shoemakers	2.36	1.18	107.3
Clogmakers	1.50	.75	107.1
Building industry:			
Carpenters	2.28	1.14	96.2
Plasterers	2.53	1.27	94.8
Stonemasons	2.87	1.44	90.5
Bricklayers	2.80	1.40	96.6
Roofing-tile layers	2.60	1.30	87.8
Painters	2.31	1.16	89.9
Woodworking industry:			
Sawyers (machine)	1.77	.89	90.8
Joiners	1.95	.98	95.1
Lacquerers	2.05	1.03	92.3
Printing industry:			
Compositors	3.21	1.61	90.4
Bookbinders	2.37	1.19	97.1
Day laborers:			
Stevedores	2.33	1.17	95.1
Day laborers, male	1.45	.73	96.7
Day laborers, female	.79	.40	97.5
Fishermen	1.72	.86	91.0
Domestic service:			
Servants, male	.93	.47	93.0
Servants, female	.87	.44	91.6
Other industries:			
Rope makers	1.45	.73	100.0
Mat makers (Tatami)	2.40	1.20	86.6

[1] For June, 1931, wages, see Labor Review, October, 1931, p. 199.

Wages and Hours of Labor in Newfoundland, 1931

AMONG the industries covered in a special report from Edward A. Dow, American consul general at St. John's, Newfoundland, under date of October 6, 1931, on current wages and working hours on that island are: Lead and zinc mining, iron mining, wood cutting, fish handling, and steamship labor.

Lead and Zinc Mining

AT THE town of Buchans in 1928 production was begun of lead and zinc concentrates milled from ore obtained in property belonging to the Anglo-Newfoundland Development Co., the owners of the paper mills at Grand Falls, which is not far from Buchans. Operations at the Buchans plant are entirely under the management and control of a branch of an American smelting and refining company. The following hourly wage rates were those in effect September 10, 1931; rates have, however, remained practically the same since 1929.

	Rates per hour
Miners and blasters	$0.36 to $0.40
Muckers	.32 to .35
Chute loaders and grizzlymen	.35 to .40
Mine repairmen and timbermen	.35 to .45
Millmen	.40 to .50
Mechanics, electricians, and helpers	.30 to .65
Carpenters	.35 to .40
General surface labor	.30

All millmen work 8 hours per day and 7 days per week. Practically all other men work 9 hours per day and 6 days per week. Until last spring the 9-hour men worked 10 hours per day and 6 days per week. Rates for overtime are the same as for regular time. There is no separate wage scale according to age.

Holidays are not paid for. House rentals are lower than would be warranted if the buildings were constructed only for a capital investment. Unmarried workmen live free in bunk houses and pay 60 cents per day for meals. The average cost to the mining company of furnishing these meals is 87 cents per day. No free fuel is given, but workmen are allowed to cut dry timbers near the mine for fuel. Very little gardening is done in the small yards surrounding the workmen's cottages.

Iron Mining

BELL ISLAND is located off the coast of St. John's, about 8 miles from that port. It is the seat of one of the largest hematite iron ore mines in the world, and although the mine shafts are sunk from the island itself, much of the mining is pursued under the channel and the mainland near St. John's. Ordinarily the weekly pay roll at Bell Island is estimated at $50,000. The mines, during the calendar year 1931, operated for a total of about 150 days, thus indicating less than half-time operation. Most of the iron ore goes directly to Rotterdam for consumption in Germany, and to the Dominion Iron & Steel Corporation, the parent company at Sydney, Nova Scotia; an amount not to exceed 10 per cent of the annual output is exported to the

United States. The following statement regarding wage rates for iron mining was obtained from the management at Bell Island:

	Rate per hour
Underground:	
Foremen	$0.45–$0.55
Shovelers, drillers, mechanical loader crews	[1].30
General laborers	[2].30
Surface:	
Foremen	.35– .50
Mechanical and electrical employees and carpenters	.30– .55
General laborers	.28½
Boys under 18	.20

Underground miners are paid for a 10-hour day but average only 8 hours of work. Surface laborers work 10 hours per day and 60 hours per week. Holidays are not paid for.

House rent approximates $1 per room per month. Coal is sold at a reduced rate, being practically the cost price, and additional land is allotted for gardens at $2 per acre. Coal is sold to the miners at $6 per long ton, while other persons on the island pay $8. Both prices are much less than to consumers in St. John's, who pay $12.50 per ton.

There are no deductions from the wages, except of 20 cents monthly per family for medicine, nor any insurance contributions which affect the cash value of the wages. The number of employees at this mine averaged 1,200 during 1931.

Wood Cutting

CUTTING of wood by the cord, as the phrase is used in Newfoundland, is legally the quantity of round timber that can be properly piled within a space of 128 cubic feet, without deduction of air space between the logs. Cutting a cord of wood is regarded as an average day's work. Accordingly, $1.85 per cord is considered by the local press as too small to permit of a living wage in Newfoundland, where nearly all foodstuffs and other necessaries of life are necessarily imported and where this labor is intended to encourage the local utilization of logs and thus provide greater opportunities for labor in Newfoundland.

A Crown lands act, effective January 1, 1931, prohibits exportation either from Crown lands or from land under license of timber, trees, or logs, except in the form of sawn lumber, paper pulp, or salable manufactured products of timber. In the past several years exports of fir and of other unmanufactured timber have been permitted under specific orders of the governor in council, irrespective of any acts of legislature.

In September, 1931, men were receiving from $1.80 to $2.50 per cord, as compared with $3 in 1930.

Handling Fish and Other Foreign Trade Cargo at St. John's

ST. JOHN'S is the chief port and commercial center of Newfoundland, and the only point where labor rates have been fixed in connection with handling general import and export cargo. Since, besides newsprint paper, shipments of which are made at points outside St. John's,

[1] Minimum. Also bonus on output from 25 to 100 per cent of wages.
[2] And bonus on earnings, amounting to 25 to 40 per cent of wages.

the export of fishery products is the leading item of foreign trade, the following information contains many details of harbor labor costs affecting fish only. In general the word "fish" indicates salted codfish only. The following schedule in effect September, 1931, has been in force since August, 1921, but will in the near future probably be reduced by about 10 per cent.

Fish-wharf labor.—This includes general handling of fish, with respect to the more skilled and physically arduous types of work, such as carrying by "barrow" (wooden carrier used by two men), screwing (pressing fish into casks), loading, and discharging to and from sides of sailing vessels, including pushing trucks used for fish packages on wharf. Wages per hour, effective from 1921 to 1931, were 35 cents from 6 a. m. to 6 p. m., 45 cents from 6 p. m. to midnight, and 60 cents from midnight to 6 a. m.

The foregoing rates are also paid for shoveling salt.

The process of culling fish is paid for at 3 cents per quintal of 112 pounds on board, 2½ cents on barrow, and 2 cents car laden.

General labor.—The wage scale per hour, effective from 1921 to 1931, was 30 cents from 6 a. m. to 6. p m., 39 cents from 6 p. m. to midnight, and 55 cents from midnight to 6 a. m. This schedule is applied to general labor within the city of St. John's, although primarily intended for application to wharf labor of the more unskilled or lighter type, and therefore on a lower scale than in the case of fish-wharf labor proper. During infrequent periods of work during meal hours, the scale for all types of wharfage is $1 per hour, but the foregoing general labor wage applies to: (1) Meal hours, when men work to take fish into shelter from danger of rain; (2) handling salt bulk and green fish, and fish drying in general; (3) loading or discharging of lighters, whether or not power hoists are used; (4) rolling drums from storage or shooting drums down slides; (5) loading coal on sailing or auxiliary vessel; and (6) when proper hoists are not used in connection with lighters.

In addition to the foregoing general rates, 2 cents per hour extra is paid to men employed in cold-storage work, in oil freezers smoking fish, and in cleaning oil tanks. An extra wage of 3 cents per hour is paid for handling and packing sealskins.

Steamship labor.—Wage rates per hour for handling general cargo, including salt, effective 1921 to 1931, were as follows: 6 a. m. to 6 p. m., 45 cents; from 6 p. m. to midnight, 60 cents; from midnight to 6 a. m., 90 cents. During meal hours $1 is paid, and on Sunday and a few holidays and Saturday evenings, from 6 p. m. to midnight, $1 per hour is paid. This scale for steamship labor applies also when proper hoists are not used in connection with lighters and for cleaning sealing steamships after sealing voyage.

Steamship labor is also given an extra payment of 5 cents per hour for handling coal and 10 cents per hour for Welsh steam coal. All ballasting of foreign-going ships is to be done by union men. In general, the workers are not thoroughly organized in Newfoundland, and the Longshoremen's Protective Union, which has thus far successfully resisted a reduction at St. John's, is one of the few important organizations of Newfoundland.

Blueberry Picking

ASIDE from codfish and other products of the sea, the exports of foodstuffs from Newfoundland consist largely of blueberries. Farm produce is not exported, as the crops are too limited even to satisfy local consumption. For blueberries a good market began to be developed a few years ago in the United States. In 1929, with prices comparatively high in that country, local pickers were paid at the rate of 30 cents per imperial gallon (of about 6 pounds). The wage scale fell to 20 cents in 1930 and then to about 10 cents for the season of 1931.

Blueberries are picked chiefly by family groups in the sparsely settled districts near St. John's. It is estimated that the average picker, an adult or child over 14 years old, will earn at the foregoing rates about $1.25 to $1.50 per day for picking blueberries. These laborers receive their pay upon delivery of the berries to any one of about 350 collectors who, as merchants or otherwise, are located in various small towns in the eastern part of Newfoundland. The season for picking blueberries, as well as small quantities of other wild berries, lasts from about 4 to 10 weeks, but due to the small demand, chiefly in the United States, blueberries were picked for only about 10 days in 1931.

General Survey of Wages in Great Britain, 1931

THE following pages contain such information as is available regarding wages and hours of labor at the end of 1931 in certain of the more important British industries. The data presented are derived chiefly from reports furnished by United States consuls in Great Britain, supplemented in some cases by a recent study published by the British Ministry of Labor, giving relative wage levels at December 31, 1931, and August 4, 1914.[1]

Except where otherwise noted, the hours of labor are 48 per week.

No conversions into United States currency have been made in this article. The par value of the pound sterling is $4.87; the average exchange rate in 1931 was $4.53.

Textile Industry

Cotton Textiles

Hours of labor.—In 1919 an agreement was entered into by the manufacturers and the workers' unions in the cotton textile industry which established a 48-hour week in place of the 55½-hour week formerly prevailing, and increased the list rates for piece work by 30 per cent, so that earnings should not be lessened by the reduction in hours. Toward the end of 1931 employers in the spinning branch of the industry gave notice of their intention of terminating the agreement, and on December 22, 1931, issued a circular to members of their federation, informing them that from January 1, 1932, "members of the federation will not be bound to observe the 48-hour working week prescribed by the agreement of 1919, from which the federation has withdrawn or the 30 per cent increase on the piece-price list rates which was granted as compensation in respect of the reduction of working hours from 55½ to 48."

The unions at once served notice that they would resist any attempt to lengthen the working week or to reduce rates. Up to the end of January, 1932, the employers in Lancashire had taken no steps in either direction. Some Yorkshire members of the federation, even before the close of 1931, were working more than a 48-hour week, but the unions maintain that in these cases the extra hours have been paid for at overtime rates. The other employers' organizations which signed the 1919 agreement have made no move toward abrogating it. The general situation, therefore, is that the 48-hour week prevails in the industry generally, but that in the spinning branch there is no agreement covering either hours or wages.

Wages and earnings.—Wages in the spinning and manufacturing branches are based on elaborate piece-price lists, which differ from one district to another. From time to time percentage additions or subtractions have been made on these basic prices, to meet changing circumstances, so that the actual wage is a complex matter, arrived at by a series of calculations. No official list of the actual earnings for full-time work has been published since 1906, when a table of average earnings of workers in the textile trades was given in a Board of Trade report.

[1] Sources of information for this article were reports prepared late in 1931 by K. A. H. Egerton, of the American consulate general, London, and the following United States consuls: Manchester; George L. Fleming, Bradford; Lucien Memminger, Belfast; Paul C. Seddicum, Cardiff; G. A. Makinson, Birmingham; also report of Ministry of Labor, Standard time rates of wages and hours of labor in Great Britain and Northern Ireland [revised to October, 1931, at American consulate general, London].

The United States consul at Manchester has furnished a table of average earnings of full-time workers in the cotton textile industry in the fall of 1931, concerning which he gives the following explanation:

The following list of average earnings for full-time working has been drawn up by taking the 1906 list as a basis, and adding and subtracting the various increases and decreases that have been brought into effect in the meantime. The calculations are also based on the present 48-hour week as against a 55½-hour week in 1906.

This list has been shown to representatives of the Cotton Trade Statistical Bureau, and also to Lancashire firms of spinners, doublers, and weavers, who have confirmed the tables to be approximately correct.

The census of 1924 showed that 62.7 per cent of the wage earners in the British cotton textile trade were females.

TABLE 1.—AVERAGE WEEKLY EARNINGS OF WORKERS IN THE LANCASHIRE COTTON INDUSTRY, FALL OF 1931

Sex and occupation	Average weekly earnings of specified districts											
	Ashton-under-Lyne		Oldham		Bolton		Leigh		Manchester		Stockport	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Men:												
Spinners, counts below 40	59	10	68	8	66	5	.....		60	3	56	3
Spinners, counts 40s to 80s	69	7	63	3	67	8	72	2	.....		72	1
Spinners, counts above 80s	63	0	64	6	71	5	69	11	71	5	74	2
Big piecers [1]	31	2	33	5	26	10	26	9	27	3	32	5
Twiners	59	8	61	11	.....		.....		73	11	.....	
Ball warpers	.....		67	6	63	11	.....		55	11	.....	
Sizers, tapers and slashers	66	1	.....		63	5	.....		.....		62	3
Warp dressers	.....		.....		.....		.....		.....		.....	
Twisters-in	41	9	.....		41	11	.....		38	9	33	9
Drawers-in	54	3	.....		42	8	.....		37	8	.....	
Weavers, 4 looms	35	11	.....		37	4	.....		.....		35	0
Women:												
Drawing-frame tenders	32	3	34	3	29	3	26	10	27	7	32	3
Slubber-frame tenders	31	6	33	4	26	9	24	6	26	10	30	0
Intermediate-frame tenders	30	4	31	3	26	8	25	2	25	4	29	3
Roving-frame tenders	29	3	29	7	28	10	24	10	25	0	29	8
Ring spinners	.....		24	6	22	0	.....		19	2	25	3
Reelers	22	3	22	3	19	10	18	10	20	8	21	1
Doublers	.....		23	1	21	2	.....		.....		.....	
Winders	22	0	23	0	21	5	25	0	20	1	22	4
Beam warpers	29	6	31	2	29	8	25	1	26	0	22	3
Weavers, 4 looms	32	4	32	0	34	4	30	1	30	8	33	4

Sex and occupation	Average weekly earnings of specified districts											
	Preston		Blackburn		Accrington		Burnley		Bacup		Rochdale	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Men:												
Spinners, counts below 40	56	11	43	9	49	9	.....		46	3	59	9
Spinners, counts 40s to 80s	58	5	45	2	51	5	41	11	.....		64	5
Spinners, counts above 80s	62	11	.....		.....		.....		.....		.....	
Big piecers [1]	30	5	31	11	31	11	.....		34	0	34	0
Twiners	.....		.....		.....		.....		.....		.....	
Ball warpers	.....		.....		.....		.....		54	3	63	4
Sizers, tapers and slashers	64	5	82	4	64	9	66	0	64	0	58	0
Warp dressers	55	8	.....		.....		68	5	.....		53	11
Twisters-in	38	1	37	5	39	9	39	3	34	4	37	5
Drawers-in	45	4	46	3	48	0	50	6	44	1	45	3
Weavers, 4 looms	31	4	38	3	36	10	39	0	36	6	35	1
Women:												
Drawing-frame tenders	29	3	30	4	.....		.....		27	2	32	9
Slubber-frame tenders	29	3	29	9	.....		.....		25	9	31	10
Intermediate-frame tenders	28	10	22	1	.....		.....		26	11	30	0
Roving-frame tenders	29	7	30	9	.....		.....		25	2	28	10
Ring spinners	.....		29	0	.....		.....		.....		24	7
Reelers	.....		.....		.....		.....		.....		24	6
Doublers	.....		.....		.....		.....		.....		.....	
Winders	24	0	24	1	23	6	.....		24	6	24	0
Beam warpers	32	6	33	9	.....		.....		.....		33	6
Weavers, 4 looms	34	7	37	3	35	1	38	0	34	6	34	0

[1] Little piecers' (juveniles) wages approximately one-half of big piecers.

Wool Textiles

The situation as to wages in this industry is confused in the extreme. From 1919 to the latter part of 1927, wages were fixed by agreements made by the representatives of the employers' and employees' organizations. In October, 1927, the employers gave notice of their intention of terminating the existing agreement, which could be done by giving one month's notice. It expired in November, 1927, and since then there has been no generally accepted agreement as to wages. In 1930 the Macmillan award recommended a cut amounting to a reduction of 9.249 per cent for time workers and 8.766 per cent for piece workers, and this was quite extensively enforced and accepted. In 1931 a majority of the firms affiliated with the Wool Textile Employers' Council voted to make a further reduction on the basis of a cut of 11.7 per cent to time workers, and during the latter part of the year this decrease was enforced by a number of employers in the Bradley, Shipley, Dewsbury, and Huddersfield districts.

The time workers' wages are the basis from which all others are calculated. Up to 1927 this consisted of a base rate, varying according to the classification of the worker, plus 10 per cent, plus 72.5 per cent as a cost-of-living addition. Under the Macmillan award, the base rate remained unchanged, the first addition was reduced to 5 per cent, and the cost-of-living addition to 64 per cent. Under the latest reduction, the base rate and the 5 per cent addition are unchanged, but the second addition is cut from 64 per cent to 52 per cent. For time workers the reduction amounts to 11.7 per cent. Piece workers are paid 88 per cent of the time workers' cost-of-living addition, so that under the new rates their cost-of-living bonus will be 45.76 per cent. Proportionate percentages, based on the time workers' 52 per cent, are being paid to other classes of workers.

Owing to the lack of any general wages agreement in the industry, all three of these scales may be found in effect. Some firms still maintain the levels established by the agreements formed prior to 1927; some have adopted the Macmillan rates wholly or in part, and some have enforced the reduction recommended in 1931. The following table, therefore, dealing with the wages paid in the fall of 1931, shows the full-time weekly wages under each of these three standards.

TABLE 2.—FULL-TIME WEEKLY WAGES OF WORKERS IN WOOLEN TEXTILE INDUSTRY, UNDER DIFFERENT SCALES

Branch of industry and class of worker	Basic wage	Under 1927 scale	Under Macmillan award	Under latest reduction
	s. d.	£ s. d.	£ s. d.	£ s. d.
Manufacturing, dyeing, and finishing branches:				
Time workers	30 0	2 16 11	2 11 8	2 5 7
	28 11	2 14 10	2 9 9	2 4 0
	27 9	2 12 8	2 7 9	2 2 2
	17 0	1 12 3	1 9 3	1 5 10
Piece workers	20 0	2 1 8	1 18 0	1 13 8½
Worsted-spinning branch:				
First drawers	15 8	1 9 8½	1 6 11½	1 3 10
Second drawers	15 2	1 8 9½	1 6 1	1 3 ½
Rovers	14 8	1 7 10	1 5 2½	1 2 3½
Twisters	15 2	1 8 9½	1 6 1	1 3 ½
Winders	14 2	1 6 10½	1 4 4½	1 1 6½
Reelers	15 8	1 9 8½	1 6 11½	1 3 10
Warpers	17 1½	1 12 6	1 9 5½	1 6 0
Doffers	12 6	1 3 8½	1 1 6	19 0
Spinners	13 10	1 6 3	1 3 11½	1 1 0

Silk (Leek and Macclesfield)

The wages paid in the silk industry are those fixed by agreement between the employers' associations and the trade-unions concerned, and differ in the two centers.

At Leek woman time workers aged 21 years and over are paid 29 s. a week. The majority of woman workers in Leek are piece workers and their rates are fixed at a figure to yield the average worker at least 20 per cent above a time rate of 27 s. per week. At Macclesfield women are far more generally employed as time workers.

The following table shows the weekly time rates for men at Leek and for men and women at Macclesfield. In the case of the males at Leek, unless otherwise specified, the rates given are for workers 22 years of age or over; they are those fixed by an agreement effective December, 1930, which was still in effect in the autumn of 1931. The rates given for Macclesfield are those fixed by an agreement effective in March, 1931, except in the case of designers and card cutters, for whom the rates shown went into effect in April, 1931.

TABLE 3.—TIME RATES OF SILK WORKERS AT LEEK AND MACCLESFIELD, 1931

Locality and class of worker	Weekly rate	
	s.	*d.*
Leek		
Pickers	44	0
Braid workers, spindle fettlers, oilers, cleaners, spinners, throwers and reelers	46	0
Braid speeders and knitting tacklers (fully qualified)	51	0
Weavers	51	0
Mechanics	64	0
Dyers and glossers (22 years of age)	48	0
Dyers and glossers (22½ years of age)	49	6
Dyers and glossers, with no experience in dyeing trade:		
First month	37	6
Rising monthly to 10th month	51	0
Dyers' mixers:		
First year	51	0
Second year	52	0
Third year	53	0
Fourth year	59	0
Dyeing-machine men:		
1 man to 1 machine	51	6
2 men to 3 machines	52	6
1 man to 2 machines	53	6
Macclesfield		
Men:		
Soft-silk trade—		
Power-loom overlookers	65	0
Harness builders, warehousemen, overlookers, and knitting tacklers (20 years and over)	52	0
Other workers (except weavers) 20 years and over	50	0
Thrown or hard silk trade—		
Throwing-mill men	45	0

Locality and class of worker	Weekly rate	
	s.	*d.*
***Macclesfield*—Continued**		
Men—Continued.		
Thrown or hard-silk trade—Contd.		
Overlookers	50	0
Spinners, single thread	33	0
Spinners, twofold	35	0
Dyers and finishers (22 years and over)	50	0
Hand-loom weavers	[1] 9	
Designers	73	0
	76	6
Card cutters (minimum rate)	54	0
Women:		
Soft-silk trade (20 years and over)—		
Manufacturing section—		
Winders and pickers	28	0
Warpers and twisters	31	6
Making-up section	28	0
Small-ware department	28	0
Embroidery section—		
Hand-machine threaders	28	0
Hand-machine minders	28	0
Schiffli-machine minders	29	0
Knitting section	30	6
Finishing section	29	0
Thrown-silk trade (20 years and over)—		
Knotters, doublers, drammers, and reelers	29	6
Parters	30	6
Danters	30	0
Winders and cleaners	28	0
Spinners, single thread	31	0
Spinners, twofold	33	0
Dyers and finishers (18 years and over)	28	10

[1] Per hour, plus 70 per cent.

Linen (Northern Ireland)

The manufacture of linen, with its allied trades, is an important industry in Northern Ireland, where it normally gives employment to about 85,000 workers or, roughly, 34 per cent of the total number of workers registered under the unemployment insurance acts. Hours and minimum wage rates are set by the linen trade board.

Hours of labor.—At the close of 1931 the normal working week consisted of 47 hours, the normal hours for Saturday being 4½, and for other week days 8½. Hours in excess of these and all hours worked on Sunday or on any recognized public holiday are classed as overtime, and must be paid for at extra rates.

Wage rates.—For the purpose of fixing wage rates, Northern Ireland is regarded as consisting of two divisions—the first comprising the county borough of Belfast and regions not more than 30 miles by rail from Belfast, while the second comprises all the other regions. The following table shows the minimum time rates per hour for each district separately. The rates given for lappers, measurers, and sample makers are for workers who have served an apprenticeship of five years.

TABLE 4.—HOURLY WAGE RATES OF MALE WORKERS IN THE LINEN INDUSTRY OF NORTHERN IRELAND

Class of worker	Belfast district	Other localities
	s. d.	s. d.
Lappers	1 2	1 1¾
Measurers and sample makers	1 2½	1 1¾
Apprentices (lapping, measuring, and sample making):		
First year	0 2⅜	0 2¼
Second year	0 2¾	0 2½
Third year	0 3½	0 3¼
Fourth year	0 4⅝	0 4¼
Fifth year	0 7	0 6½
Workers in Swiss embroidery branch:		
First 6 months	0 3	0 3
Second 6 months	0 6	0 6
After 12 months	0 10	0 10

For male time workers other than those shown in the above table there are two minimum rates, the first, shown in the next table under the heading "Rate A," applying to those who within the preceding five years have had not less than two years' employment in the trade, and the second, shown under the heading "Rate B," applying to those who lack this qualification.

TABLE 5.—MINIMUM HOURLY RATES, BY AGE, FOR OTHER MALE WORKERS IN THE LINEN INDUSTRY OF NORTHERN IRELAND

Age	Belfast		Other localities	
	Rate A	Rate B	Rate A	Rate B
	d.	d.	d.	d.
Under 15 years		2⅝		2½
15 and under 16		3⅝		3¼
16 and under 17	4⅜	3⅞	4	3½
17 and under 18	5⅜	4⅝	4¾	4½
18 and under 19	7⅛	5⅝	6½	5
19 and under 20	8	6¼	7¼	6
20 and under 21	8¾	7	8¼	6½
21 years and over	9¾	7¾	9	7¼

The basic piece-work rates for male workers in various operations are shown in the following table:

TABLE 6.—PIECE-WORK BASIC HOURLY RATES FOR MALE WORKERS IN THE LINEN INDUSTRY OF NORTHERN IRELAND

Class of workers	Belfast district	Other localities
	s. d.	s. d.
Workers, other than lappers, measurers, sample makers, and machine operators in Swiss embroidery branch	10¼	9½
Machine operators in Swiss embroidery branch:		
On 4¾ yards, 3-tier; or 6¾ yards machines	10½	10½
4¼ yards, 4-tier machines	11½	11½
Two 4¾ yards, 2-tier machines, coupled	1 ½	1 ½

For female workers, aged 18 years and over, the minimum time rate is 6d. per hour, unless the worker is classed as a learner, in which case she receives 2¾d. for the first three months, 3½d. for the second, 4⅜d. for the third, and 5d. for the fourth. Learners under 18 receive an initial hourly rate based on their age at entrance, with an increase for each six months of employment until they reach 18 and the 6d. an hour rate. Female workers under 18 who are not learners are paid in the same way, but their initial rate is slightly higher than in the case of learners. The piece-work basic rates for female workers, other than home workers, is 6½d. per hour.

Overtime rates.—The general overtime rate is time and a half, but for any time worked on Sundays or on publicly recognized holidays double time must be paid. The general overtime rates are payable on any day (other than Sunday or a publicly recognized holiday) when the number of hours worked exceeds 8½, or, in the case of Saturday, 4½, even though the number of hours worked in the week does not exceed 47. Piece workers receive a proportionate addition to their basic rates for all overtime worked.

Bleaching, Dyeing, and Finishing

The hours of labor in a full week are 48, except for night workers in Lancashire, Cheshire, and Derbyshire, for whom they are 43¾.

Wages.—Time wages are calculated differently in the various districts. In some there is a basic rate to which is added a cost-of-living percentage, varying as the index figure published by the Ministry of Labor rises or falls, while in others there is a flat minimum rate. Piece rates are fixed in relation to time rates, and a common arrangement is that they shall be such as to yield at least 25 per cent in excess of the basic time rate before the cost-of-living rate is added; in Yorkshire it is also provided that employees engaged on night work shall receive 2s. 6d. per night extra.

The following are the rates prevailing in the districts and for the classes named, revised to August, 1931. In Yorkshire, area A is the district covered by the Bradford Dyers Association, and area B is that covered by other employers' associations.

TABLE 7.—WAGES IN THE TEXTILE BLEACHING, DYEING, AND FINISHING TRADES, SEPTEMBER, 1931

District	Class of worker	Minimum weekly rate		
		Basic rate	Cost-of-living wage	Total
Yorkshire:		s. d.	s. d.	s. d.
Area A	Men, 21 years and over	[1] 28 0	([2])	43 5
Area B	Men, 21 years and over	30 3	([2])	44 5½
	Women, 18 years and over, except menders	18 0	([2])	26 5½
Hebden Bridge district	Dyers and class A finishers, 21 years and over.	29 0	14 3	43 3
	Other men, 21 years and over	28 0	14 3	42 3
	Female enders and menders, 18 years and over.	26 5	8 6	34 11
Lancashire, Cheshire, and Derbyshire (except Middleton).	Men, 21 years and over	28 0	14 3	42 3
	Women, 18 years and over	18 0	8 6	26 6
Middleton	Dyers, 21 years and over	30 0	14 3½	44 3½
	Male polishers	28 0	14 3½	42 3½
	Female polishers	22 0	8 9¾	30 9¾
Scotland	Men, 21 years and over	25 0	14 3	39 3
	Women, 21 years and over	15 0	8 6	23 6
		Minimum hourly rate		
Hosiery branch		s. d.		
Nottingham	Trimmers	1 5		
Midland districts	Bleachers, dyers, and scourers (21 years and over).	1 2¼		
Leicester, Loughborough, and Hinckley districts.	Auxiliary workers:			
	Men, 21 years and over	1 1½		
	Women, 18 years and over	8½		
	Women, qualified menders	10½		

[1] Plus 8 per cent. [2] 47 per cent.

Calico Print Works

Wages are made up of a minimum weekly rate, plus a cost-of-living addition. The following table shows these two factors for engravers, and the total weekly wage, as of August, 1931. In Scotland the basic rate is nominally 1s. a week less than the figures given in this table.

TABLE 8.—WAGE RATES FOR ENGRAVERS IN CALICO PRINT WORKS, 1931

Occupation	Minimum weekly basic rates of wages	Cost-of-living wage	Total
	s. d.	s. d.	s. d.
Sketch makers	41 0	18 5	59 5
Die cutters	45 0	18 7	63 7
Clammers	41 0	18 5	59 5
Machine engravers	41 0	18 5	59 5
Eccentric engravers	41 0	18 5	59 5
Hand engravers	41 0	18 5	59 5
Stipplers	45 0	18 7	63 7
Plate cutters	41 0	18 5	59 5
Pentagraphers	38 0	18 4	56 4
Impressioners	38 0	18 4	56 4
Etchers	41 0	18 5	59 5

Rope and Twine (Northern Ireland)

Beginning at 2½d. per hour for boys under 15, time rates for male workers rise gradually, reaching their maximum when the worker attains the age of 21. For those under 18, rates are uniform regardless of occupation, but from 18 onward there are variations according to the work done. The following table shows the hourly piece and time rates for male workers.

TABLE 9.—HOURLY RATES OF MALE WORKERS IN THE ROPE AND TWINE INDUSTRY OF NORTHERN IRELAND

Occupation	Hourly rates of time workers 21 years of age and over		Piecework basic rates per hour	
	Belfast district	Other localities	Belfast district	Other localities
	d.	d.	s. d.	d.
Hand dressers (hemp)	11	10½	1 0	11½
Charge hands	11	10½	1 0	11½
Piecers-out	10½	10	0 11½	11
Rope makers	10½	10	0 11½	11
Hand spinners	10¼	9¾	0 11¼	10¾
Hemp cutters	10	9½	0 11	10½
Line and cord makers	9¾	9¼	0 10¾	10¼
Rope layers (house machines)	9½	9	0 10½	10
Rope formers (house machines)	9	8½	0 10	9½
All other male workers	8½	8	0 9½	9

For female workers aged 18 and over, the time rates per hour in the first district range from 4.25d. for doffers and 5d. for layers, to 6.25d. for reelers and warpers, and 6.5d. for sample makers, house-machine minders and net-making machine operators. The most diversified group of operators, including ballers, carders, sop winders, drawers, etc., are paid 6d. per hour. Piece-work basic time rates are ½d. per hour higher than the straight time rates. In the second district, both time and piece-work basic time rates are uniformly ½d. per hour lower than in the first.

Iron and Steel Industry and Metal Trades

Hours of labor.—In general, the 8-hour day prevails throughout the trades and occupations grouped under this heading. At the time these figures were taken (the fall of 1931) blast furnace employees were working eight hours a day and seven days a week.

Earnings and wage rates.—Throughout the whole of the pig iron, wrought iron, heavy steel, and tin plate trades, and the tube trade of Scotland, wages rate are adjusted by means of sliding scales, based upon the selling price of the principal products of the industry concerned. A periodical survey of these prices is made for the purpose of determining what changes, if any, should be made in the wage rates. Taking the wage level of 1926 as a standard, one large firm gives the following estimate of the relative position during the three years ended December 30, 1931:

1926	100
1929	99
1930	99
1931	96

Table 10, based on the experience of a limited number of firms, indicates the approximate earnings in various departments of the iron and steel industry in 1931.

TABLE 10.—EARNINGS IN IRON AND STEEL INDUSTRY OF GREAT BRITAIN, 1931

Branch of industry and occupation	Earnings per full-time week		
	£	s.	d.
Blast furnaces			
Hand-charged furnaces:			
Keepers	5	4	5
Slaggers	3	13	1
Slaggers' helpers	3	13	1
Chargers (top filler)	5	6	8
Coke chargers	3	12	7
Mine fillers (ore)	5	1	9
Brakemen (hoistmen)	5	1	9
Weighmen	2	11	4
Coke fillers	4	11	0
Gantrymen, bunkermen	4	7	0
Blowing engineers	3	16	10
Stove men, first	3	16	10
Stove men, second	3	3	11
Boiler men (3-ton boilers)	3	6	0
Boiler men (14-ton boilers)	3	16	10
Hydraulic engineers	2	13	0
Pump men (Tuyère)	3	1	3
Turbo drivers	3	5	5
Cleaners, boiler	3	12	1
Pump men	2	18	2
Furnace laborers	2	11	0
Mechanically charged furnaces:			
Keepers	5	4	3
Slaggers	3	15	0
Slaggers' helpers	3	15	0
Weighmen	2	11	2
Hoistmen	4	11	8
Carmen	4	10	11
Transfer carmen	3	5	10
Coke crane drivers	3	10	1
Oilers (first day shift only)	3	3	8
Gantrymen, bunkermen	4	7	0
Blowing engineers	3	16	10
Stove men, first	3	16	10
Stove men, second	3	3	11
Boiler men (3-ton boilers)	3	6	0
Boiler men (14-ton boilers)	3	16	10
Hydraulic engineers	2	13	0
Pump men (Tuyère)	3	1	3
Turbo drivers	3	1	7
Cleaners, boiler	3	12	1
Pump men	2	18	2
Furnace laborers	2	11	0
Open-hearth furnaces			
First hands	14	1	10
Second hands	9	3	1
Third hands	7	0	11
Pitmen	9	13	9
Pitmen's helpers	2	15	2
Charge wheelers	2	16	4
First ladle men	2	18	5
Second ladle men	3	4	8
Third ladle men	3	4	8
Stopper makers	2	1	11
Gas producer men	3	3	0
First hands, mixers	5	4	9
Second hands, mixers	3	18	5
Third hands, mixers	3	10	1
Ladle men, mixers	2	11	11
Pan fillers	2	11	11
Pit steam-crane men	5	2	0
Electric-crane men	3	7	11
Boiler men	2	10	1
Hydraulic engine men	2	17	1
Ingot weighmen	2	7	5
Electric charge men	3	0	2
Rolling mills			
Rollers	6	10	5
Coggers	3	3	4
Roughers	3	3	4

Branch of industry and occupation	Earnings per full-time week		
	£	s.	d.
Rolling mills—Continued			
Finishers	3	5	0
Finishers, extra	2	18	11
Special finishers	2	18	11
Guide setters	2	18	4
Guide setters' helpers	2	4	10
Saw men (cutters)	3	4	0
Stoppers (for cutters)	2	15	5
Stockers (pilers)	2	14	6
Heaters	5	3	5
Heaters, assistant	3	14	9
Doggers	2	19	10
Lid lifters (soaking pit)	2	19	11
Firemen (soaking pit)	2	15	4
First slaggers	2	11	4
Second slaggers	2	10	8
Engine drivers (mill)	2	14	11
Oilers (engine)	2	8	1
Condenser men (engine)	2	11	3
Hydraulic engine men	2	8	1
Boiler firemen	2	8	2
Boiler feeders (headmen)	2	17	5
Roller gear oilers	2	8	2
Filler men (turning ingots)	2	19	10
Electric-crane men (100-ton)	2	10	3
Electric-crane men (5-ton)	2	13	6
Steam crane men	3	0	9
Steam crane slingers (put on chains, etc.)	2	12	5
First leaders, hot bank (cooling)	3	9	0
Second leaders, hot bank (cooling)	3	4	3
Gas producer men	2	11	2
Hot-bank cranemen	3	10	7
Platform boys		15	0
		18	0
Platform boys, spare		18	10
Roll changers, first hands	2	7	7
Roll changers, second hands	2	4	10
Roll changers, third hands	2	1	3

Branch of industry and occupation	Earnings per 8-hour shift		
	£	s.	d.
Open-hearth furnaces			
First melters	1	15	5
Second melters	1	3	2
Third melters		18	11
Pitmen		17	5
Pourers		16	6
Ladle liners and patchers		11	6
Slingers (for cranes)		7	4
Gas producer men		9	0
Cranemen		9	5
		10	0
Laborers		6	6
Rolling mills			
Heaters	1	1	10
Heaters' helpers		14	4
Rollers	1	18	6
Coggers		19	11
Catchers	1	0	11
Hookers		14	0
Sawmen		13	9
		16	0
Cranemen		5	5
		7	11
Slingers		10	7
General laborers		6	5
		6	6
Roll engineers		12	3

TABLE 10a.—BASIC RATES IN TIN-BAR MANUFACTURING IN WALES

Branch of industry and occupation	Basic rate per shift	Branch of industry and occupation	Basic rate per ton [1]
Tin-bar mills	s. d.	*Tin-bar mills*—Continued	
Stockers	6 0 to 6 6	Acid process:	d.
		First melters	9½
		Second melters	6¾
Charging machine operators	6 0 to 8 0	Basic process:	
		First melters	10¾
Teemers or pourers	[2] 8 4	Second melters	7¼
Ladlemen, first	[3] 6 3	Third melters	5
Ladlemen, second	[3] 5 3	Pitmen	7
Pit cranemen	6 0 to 7 3	Pitmen's helper	2
		Soaking pit:	
Locomotive engineers	8 0	Heaters	4½
		Helpers	2¼
Switchmen	6 0 to 7 0	Reheating furnace:	
		Ballers	3 to 4½
Laborers	5 0	Gasmen	3
Reheating furnace:		Pull-up boys	5/8
Pusher boys	[4] 3 6	Rolling:	
Coal men	5 6 to 6 0	Rollers	2 1/16
		Roughers	1 1/8
		Barrers, first	1
		Barrers, second	1/8
		Shearers	1¼

[1] Divided among 3 men.
[2] Plus 1d. per ton among 3 men.
[3] Plus 1/6d. per ton among 3 men.
[4] Approximately.

Engineering and Shipbuilding

The Ministry of Labor gives the following figures relating to wage rates in the trades grouped under this heading.

TABLE 11.—RELATIVE LEVELS OF WAGE RATES IN ENGINEERING AND SHIPBUILDING OCCUPATIONS IN GREAT BRITAIN, 1914 AND 1931

Occupation	Average (unweighted) of recognized weekly time rates in principal centers at		Average per cent of increase, Aug. 4, 1914 to Dec. 31, 1931
	Aug. 4, 1914	Dec. 31, 1931	
	s. d.	s. d.	
Engineering:			
Fitters and turners	38 11	59 1	52
Iron molders	41 8	62 4	50
Patternmakers	42 1	63 4	51
Laborers	22 10	42 1	84
Shipbuilding:			
Shipwrights	41 4	59 9	45
Ship joiners	40 0	59 11	50
Laborers	22 10	40 10	79

Concerning these figures the following statement is made:

The above figures relate to a full ordinary week of 53 hours in some districts and 54 in others in 1914, and of 47 hours generally at December, 1931. The corresponding increase in hourly rates thus ranges from about 70 per cent for skilled workers to about 105 per cent for laborers in the engineering trade, and from about 65 to 70 per cent for skilled men to nearly 105 per cent for laborers in the shipbuilding trades.

In the case of piece workers the general advance over pre-war rates in the engineering industry amounts to 10 per cent on basis piece rates, plus a flat rate advance of 10s. a week. In the shipbuilding industry the general advance is 10 per cent on basis piece rates; at the end of December, 1931, a flat rate advance of 3s. 6d. per week, which has since been withdrawn, was also paid. In addition special advances have been granted to particular sections of workers.

Pottery Industry

Hours of labor.—In general, the hours of labor in a standard week in the pottery industry are 47, exclusive of mealtimes and overtime. For enginemen and stokers, wage rates are based on a week of 48 hours, and are subject to reduction when the hours in any week are less than 48.

Wages.—The British pottery industry employs more than 70,000 workers, considerably over half of them being women and girls. To a large extent piece rates prevail, and though both workers and employers are strongly organized, these rates differ so materially from factory to factory, according to product and to methods employed, that it is practically impossible to secure any definite information as to customary or average earnings. In February, 1931, the associated manufacturers in the industry gave notice of their intention to change the agreements as to wages and trade usages so as to reduce wage rates. The operatives responded by a similar notice demanding an increase in rates and various changes in trade usages. After a bitter dispute, in which the parties were unable to come to an agreement, the matter was referred to arbitrators, who gave an award effective as from the first settling day in May. By this the wages of all operatives in all sections of the industry were reduced by 10 per cent, except that it was provided that the cut should not operate to bring the wages of certain classes below specified minimum figures. The classes affected by this proviso and the minimum wage established for each are shown in the following table:

TABLE 12.—MINIMUM TIME RATES FOR SPECIFIED CLASSES OF BRITISH POTTERY WORKERS, AGED 21 YEARS AND OVER

Class of worker	Minimum weekly rate
	s. d.
Male workers:	
Enginemen	52 6
Stokers	47 6
Laborers	43 0
Female workers:	
Warehouse workers in all sections	25 0
Electrical fittings section—	
Pressers, fettlers, dippers, cleaners, printers, decorators, and transferrers	25 6
Glost and biscuit placers, working with men in placing houses	27 0
Dipping-house workers (except dippers, scourers, and electrical-ware cleaners)	27 0
Earthenware potters' attendants and tile-trade attendants—	
Mold runners (18 years old and over)	19 0
Other potters' and tile-trade attendants	25 0
Enamellers and gilders	[1] 7½
Litho transferrers	[1] 6¾

[1] Minimum hourly rate.

Lower rates are provided for female workers aged under 21 in most of the above classes, and for female apprentices. Lower rates are also provided for male laborers under 21.

Boot and Shoe Industry

BOTH employers and employees in the boot and shoe industry are strongly federated, and wages are determined by joint agreement. For time workers, wages vary according to sex and age, men reaching the standard adult rate at 22 and women at 20. The recognized rates, up to and including these ages, are as follows:

TABLE 13.—WEEKLY WAGE RATES IN THE BOOT AND SHOE INDUSTRY OF GREAT BRITAIN, BY AGE AND SEX, 1931

Age	Weekly wage rates for—	
	Males	Females
	s. d.	s. d.
15 years	12 6	11 6
16 years	17 6	15 6
17 years	20 6	19 6
17 years, 6 months	23 0	21 0
18 years	26 0	23 0
18 years, 6 months	28 6	25 9
19 years	32 0	28 6
19 years, 6 months	34 6	31 0
20 years	38 6	33 0
20 years, 6 months	43 6	
21 years	48 6	
21 years, 6 months	51 0	
22 years	54 0	

Piecework earnings.—Piece rates are fixed at a figure intended to secure to the average worker earnings at least 25 per cent above the minimum time rates. Data were obtained showing the actual earnings of pieceworkers in a representative East Midlands factory during a standard week of 48 hours, and the range of these earnings is given in the following table:

TABLE 14.—HIGHEST AND LOWEST EARNINGS OF MALE PIECEWORKERS, BY OCCUPATION, IN REPRESENTATIVE BRITISH SHOE FACTORY, WEEK ENDING SEPTEMBER 30, 1931

Operation	Highest earnings	Lowest earnings
	£. s. d.	£. s. d.
Clinkers	5 6 3	4 3 10
Lasting	4 1 1	3 0 9
Pulling over	3 17 5	3 0 0
Pounding up	3 14 3	3 9 6
Blake sewing	4 7 9	4 4 6
Leveling	3 12 10	2 15 9
Heeling	4 9 11	3 8 9
Edge trimming	5 19 4	4 2 9
Edge setting	5 12 6	4 19 9

In addition to the above, there were four operations performed by male workers, for which only one figure showing earnings could be obtained. Weekly earnings for these occupations were—

	£	s.	d.
Welt sewing	5	11	6
Rounding	6	9	0
Stitching	3	14	9
Heel paring	6	2	11

In this factory fitting cutters were on a weekly wage of £2 16s. 0d. Actual earnings were obtained also for female pieceworkers engaged on standard operations, but in this case overtime had been worked, so the following table shows, by operations, the hours worked and the highest and lowest earnings made during the week.

TABLE 15.—HOURS WORKED, AND HIGHEST AND LOWEST EARNINGS, BY OPERATION, OF FEMALE PIECEWORKERS IN THE BOOT AND SHOE INDUSTRY OF GREAT BRITAIN, DURING SPECIFIED WEEK OF 1931

Operation	Highest earnings		Lowest earnings	
	Hours worked	Amount earned	Hours worked	Amount earned
		£ s. d.		£ s. d.
Skiving	54¼	3 3 5	53¾	2 6 1
Perforating	53	3 6 11	53	2 11 10
Folding	54¼	3 2 4	54¼	2 12 4
Stitching vamps	53	3 2 7	53	2 9 1
Stitching linings	54¼	2 8 3	50	1 15 4
Stitching galoshes	53	2 19 4	53	2 8 10
Stitching other portions of uppers	52½	2 17 2	51½	2 6 3

Building Trades

Hours of labor.—The customary hours of labor in a full week, exclusive of mealtimes and overtime, are 46½ throughout the period during which the so-called statutory "summer time," or daylight saving time, is in force, and 44 for the rest of the year. In a number of cases, however, the 44-hour week prevails throughout the whole year, and in a few towns special arrangements for other hours during the whole or part of the year have been made by agreement between employers and workers.

Wages.—Rates are established by the National Joint Council for the building industry, except in the case of Liverpool and Birkenhead, where local agreements prevail, and in the case of a few towns where the plasterers' rates have been fixed by special agreement between the unions and the master plasterers' association. For purposes of rate fixing, towns are divided into 10 grades, London being graded by itself apart from the other 10, and the rate paid depends upon the grade into which the town falls. The following table, giving hourly rates by occupation, shows for England the lowest rate, the London rate, and the Birkenhead and Liverpool rate, these last being identical, and for Scotland the lowest and the highest rates.

TABLE 16.—HOURLY RATES FOR BUILDING WORKERS IN ENGLAND AND SCOTLAND, 1931

Occupation	English rates			Scottish rates	
	Lowest rate	London rate [1]	Liverpool rate	Lowest rate	Highest rate
	s. d.	s. d.	s. d.	s. d.	s. d.
Masons	1 2	1 8	1 8	1 4½	1 7½
Bricklayers	1 2	1 8	1 8	1 4½	1 7½
Carpenters and joiners	1 2	1 8	1 8	1 4½	1 7½
Plasterers	1 2	[2] 1 8	1 9	1 4½	1 8½
Slaters	1 2	1 8	1 8	1 4½	1 7½
Plumbers	1 2	1 8	1 8	1 4½	1 7½
Painters	1 2	1 7	1 8	1 4½	1 7
Laborers	0 10½	1 3	1 3¼		

[1] These are the rates for an area within a 12-mile radius of Charing Cross. For the area within the 12 to 15 mile radius, the rates are ½ d. less.

[2] The rate recognized by the National Association of Plasterers', Granolithic and Cement Workers, as and from Feb. 1, 1931, is 1 s. 10½ d. per hour.

Relative wage levels at end of 1931.—The method of obtaining these is explained as follows by the Ministry of Labor:

On the basis of the unweighted averages of the standard rates of wages in 39 of the largest towns, the average increases in hourly and weekly rates at the end of December, 1931, of the principal classes of adult workmen, were as shown in the following table. The weekly rates shown have been computed by multiplying the hourly rates of wages by the number of hours constituting a full ordinary week (averaging approximately 49¼ in 1914 and 44¾ at December, 1931), both the summer and winter hours being taken into account for this purpose.

TABLE 17.—RELATIVE LEVEL OF WAGE RATES IN THE BUILDING TRADES IN GREAT BRITAIN, 1914 AND 1931

Occupation	Average (unweighted) of recognized wage rates in large towns					
	Hourly rates			Weekly rates		
	Aug. 4, 1914	Dec. 31, 1931	Per cent of increase, Aug. 4, 1914, to Dec. 31, 1931	Aug. 4, 1914	Dec. 31, 1931	Per cent of increase, Aug. 4, 1914, to Dec. 31, 1931
	d.	*d.*		*s. d.*	*s. d.*	
Bricklayers	9.9	18.6	88	40 7	69 1	70
Masons	9.8	18.6	90	39 7	69 2	75
Carpenters and joiners	9.8	18.6	90	39 11	69 0	73
Plumbers	9.6	18.6	93	39 8	69 0	74
Plasterers	9.7	18.8	93	40 0	69 11	75
Painters	8.8	18.5	110	36 3	68 6	89
Laborers	6.6	13.9	112	27 0	51 10	92

In publishing this table, the Ministry of Labor calls attention to the fact that "in 35 of the 39 towns of which account has been taken in the compilation of these averages, rates of wages for building-trade operatives have been reduced as from February 1, 1932, by ½d. per hour for craftsmen and by ½d. or ¼d. (generally ½d.) per hour for laborers."

Coal Mining

Hours.—Hours of work underground were fixed by the coal mines act of 1930 at 7½ per shift, with a proviso for the so-called "spread-over," under which a different arrangement of hours per shift might be made, provided the working time did not exceed 90 hours in a fortnight. This act was due to expire July 8, 1931, but before that date the coal mines act of 1931 was passed, which continued in effect the 7½-hour shift, but no longer permitted the spreadover. (See Labor Review, September, 1931, p. 200.) A "shift" is defined as the period between the time at which the last man in the shift leaves the surface, and the time when the first man up reaches the surface.

Wages and earnings.—Wages are calculated by a highly complicated system. The coal fields are divided into eight districts, and each of these has its own basic rate. This is modified by various percentage and flat-rate additions, which differ from district to district, and are based on selling price, cost of living, etc. In addition, there is a minimum or subsistence wage, fixed by the day or by the shift, below which wages may not fall. By long-standing custom, various allowances in kind are also made to miners; these vary from field to

field and are not reckoned in as part of the wage rate. Reports published periodically by the Mines Department are the source of information as to wages and earnings, and this is usually given in two forms—wages per ton of commercially disposable coal, and earnings per man-shift worked. The following table shows these data, and also the average actual weekly earnings for the quarter ended June 30, 1931.

TABLE 18.—WAGES AND EARNINGS IN THE BRITISH COAL-MINING INDUSTRY, QUARTER ENDING JUNE 30, 1931

District	Wages per ton of commercially disposable coal		Earnings per man-shift worked		Average actual weekly earnings	
	s.	d.	s.	d.	s.	d.
Scotland	8	5.32	9	2.76	49	4.65
Northumberland	7	3.45	7	8.73	37	.57
Durham	7	11.21	8	.80	36	5.46
South Wales and Monmouth	9	11.57	8	11.14	44	.36
Yorkshire	9	3.33	10	1.61	40	.55
North Derbyshire and Nottinghamshire	9	.29	10	4.99	41	3.44
South Derbyshire, Leicestershire, etc	10	4.55	9	7.12	41	2.57
Lancashire, Cheshire, etc	11	9.35	9	1.02	40	10.25
Cumberland, North Wales, Staffordshire, etc	10	8.40	8	9.07	43	4.26
Summary for Great Britain	9	3.59	9	2.18	41	6.35

General Survey of Wages in Denmark, 1930 and 1931[1]

ALMOST all Danish industrial workers are organized in trade-unions and nearly all employers of industrial labor in Denmark are also organized in an association called "The Employers' Association." Both the workers' and the employers' organizations are recognized by law. The Employers' Association deals directly with the trade-unions, and the association members employ union labor only. Representatives of the trade-unions and a body representing the Employers' Association meet from time to time to draw up agreements regarding wage schedules and shop conditions. After these agreements have received the sanction of both parties, they are usually strictly adhered to until new agreements take their place.

Formerly these agreements were binding for a number of years or for an indefinite period of time and provided that all wage schedules were to be automatically adjusted from year to year according to the cost-of-living index figures published by the Danish Statistical Department. The agreements are now for a shorter term, usually from 1 to 2 years, and the wage schedules are no longer adjusted according to the cost-of-living index figures. A certain minimum wage is fixed, below which it is considered no worker can subsist, especially in Copenhagen, this wage usually being set at 1.10 kroner (29.5 cents)[2] per hour for men and 0.70 krone (18.8 cents) for women, and such rates are unaffected by changes in the higher schedules on renewal of agreements. In some cases the bare subsistence wage is set at a lower figure. Otherwise, the wage rates established vary greatly in principle. There are minimum rates above the level of the bare subsistence rates, normal rates, and rates for piecework.

Within the same trade the rates are neither uniform nor based on the same principle, but vary according to local conditions. Thus,

[1] This report was prepared by E. Gjessing, American vice consul, Copenhagen, late in 1931.
[2] Conversions into United States currency on basis of krone=26.8 cents.

for workers in the same trade, the wage rates for workers in Copenhagen and vicinity differ from those in the provincial towns, for instance. There is such a multiplicity of rates within each trade for special kinds of work under varying conditions, that a clear picture of the net effects of the rates in the various trades can be obtained only by giving average earnings.

No age differences are recognized in wage fixing, except in the textile industry and a few other trades.

The 8-hour day (with a 48-hour week) is observed in nearly all Danish trades.

Figures showing average earnings for 1930 have been published by the Danish Statistical Department. (See Table 2.) The degree of unemployment is an important factor in determining these figures. It is, therefore, pertinent to point out that the year 1930 was a prosperous one in Denmark, that on June 30, 1930, 8½ per cent of the wage earners in this country were unemployed, and that the average figure of unemployment for the whole year of 1930 was 13.7 per cent.

In the month of April, 1931, new agreements went into effect between the Employers' Association and various trade-unions with a membership of 155,000 (more than 50 per cent of all industrial workers). By these agreements, wages in the trades affected were reduced nominally from 5 to 8 per cent, but, in all probability, actually only 5 per cent. The lowest wage schedules were not changed, but rates for piecework were reduced by 6 to 8 per cent. By increasing the working tempo pieceworkers were able to counteract this reduction in part, so that the actual reduction in piecework earnings would be from 3 to 4 per cent.

In the wage agreements of 1931 the workers secured the privilege of a vacation of six working days each year with pay, provided they had worked a certain fixed period of time in one shop, and it is estimated that this meant a gain to the workers of at least 2 per cent on their total annual earnings. The wage reductions in the 1931 agreements do not therefore actually amount to more than from 3 to 4 per cent.

There is a uniform method of paying for overtime in nearly all Danish trades. The first hour of overtime is paid for at the regular hourly rate plus 25 per cent; for the second hour of overtime there is an addition of 33 per cent; for the third and fourth hours 50 per cent, and thereafter 100 per cent. On holidays the rate for overtime is the regular wage plus 50 per cent for the first four hours and thereafter 100 per cent extra.

Deductions from wages.—There is no special wage tax levied in Denmark but the income tax rates on small incomes are quite high. The income tax is levied on annual incomes above 800 kroner ($214.40) a year, and the rate rises with the increase in amount of income.

Wage workers do not contribute directly towards accident insurance, invalidity pensions, or old-age pensions, the expenses for which are covered by general taxation. They do, however, contribute toward unemployment insurance. Each trade-union has its own unemployment fund, which is administered by trade-union members under State supervision. The fund is raised by membership fees, and by State and municipal contributions.

The contributions of the State and the municipalities are proportioned to the average yearly earnings of the members of the unemployment funds, and, in accordance with the law of July 1, 1927, are as follows:

TABLE 1.—CONTRIBUTIONS OF STATE AND MUNICIPALITIES TOWARD UNEMPLOYMENT INSURANCE IN DENMARK

[Conversions into United States currency on basis of krone=26.8 cents]

Income class of member	Contributions (in per cent of membership fees) made by—	
	State	Municipalities
Up to 1,500 kroner ($402)	40	30
Over 1,500 to 2,000 kroner (over $402 to $536)	35	30
Over 2,000 to 2,500 kroner (over $536 to $670)	30	25
Over 2,500 to 3,000 kroner (over $670 to $804)	25	20
Over 3,000 to 3,500 kroner (over $804 to $938)	20	15
Over 3,500 to 4,000 kroner (over $938 to $1,072)	15	10
Over 4,000 kroner (over $1,072)	10	5

The public contributions are made in conformity with reports as to earnings in the various trades made by the State bureau of labor. In the trades where the highest earnings prevail, the members pay about 87 per cent of the contributions and in those where the lowest average earnings obtain, the members pay but 59 per cent of the amount of contributions to the unemployment fund.

The membership fees for unemployment insurance vary, in the different trades, from 2.2 to 4 per cent of the total yearly earnings. It is estimated that the textile workers contribute 3.8 per cent of their total yearly earnings, the metal workers approximately 3.5 to 4 per cent, and the woodworkers and shoe workers about 3.5 and 4 per cent, respectively.

Average Hourly Earnings in Danish Industries in 1930

TABLE 2 gives the average hourly earnings in various industries during the year 1930. The figures are taken from Statistiske Efterretninger (published by the Danish Statistical Department) for May 22, 1931.

TABLE 2.—AVERAGE HOURLY EARNINGS IN DANISH INDUSTRIES IN 1930

[Conversions into United States currency on basis of krone=26.8 cents]

Industry and class of worker	Average hourly earnings			
	Copenhagen		Provinces	
	Danish currency	United States currency	Danish currency	United States currency
Food				
	Øre	*Cents*	*Øre*	*Cents*
Bakeries: Skilled workers	151	40.5	123	33.0
Breweries:				
Unskilled workers	140	37.5	130	34.8
Female workers	100	26.8	84	22.5
Flour mills:				
Skilled workers	140	37.5	120	32.2
Unskilled workers	131	35.1	109	29.2
Chocolate factories:				
Skilled workers	149	39.9	139	37.3
Unskilled workers	114	30.6	114	30.6
Female workers	71	19.0	60	16.1
Chicory factories:				
Unskilled workers	146	39.1	110	29.5
Female workers	90	24.1	69	18.5
Canning factories:				
Unskilled workers	145	38.9	100	26.8
Female workers	84	22.5	62	16.6
Condensed milk factories:				
Unskilled workers	------	------	115	30.8
Female workers	------	------	81	21.7
Distilleries:				
Unskilled workers	135	36.2	130	34.8
Female workers	109	29.2	108	28.9
Sugar factories: [1]				
Unskilled workers	142	38.1	121	32.4
Female workers	83	22.2	60	16.1
Tobacco				
Cigar factories:				
Skilled workers	152	40.7	145	38.9
Unskilled workers	130	34.8	127	34.0
Female workers—				
Skilled	125	33.5	125	33.5
Unskilled	102	27.3	89	23.9
Cigarette factories:				
Unskilled workers	212	56.8	132	35.4
Female workers	121	32.4	78	20.9
Smoking-tobacco factories:				
Unskilled workers	176	47.2	131	35.1
Female workers	110	29.5	93	24.9
Chewing-tobacco factories:				
Skilled workers	224	60.0	185	49.6
Unskilled workers	129	34.6	125	33.5
Female workers	82	22.0	81	21.7
Textiles				
Upholsterers:				
Journeymen	144	38.6	170	45.6
Female workers	78	20.9	78	20.9
Ropemakers:				
Skilled workers	118	31.6	115	30.8
Unskilled workers	121	32.4	102	27.3
Female workers	77	20.6	59	15.8
Sailmakers [1]	196	52.5	125	33.5
Sack factories:				
Male workers	118	31.6	100	26.8
Female workers	75	20.1	69	18.5
Textile mills:				
Male workers	123	33.0	115	30.8
Female workers	86	23.0	77	20.6
Clothing				
Hat makers:				
Male workers	203	54.4	172	46.1
Female workers	91	24.4	95	25.5
Shoemakers [1]	145	38.9	------	------
Factory shoemakers: [1]				
Male workers	159	42.6	126	33.8
Female workers	92	24.7	73	19.6
Tailors	161	43.1	132	35.4
Seamstresses	77	20.6	70	18.8
Cutters	194	52.0	------	------
Wood				
Carvers [1]	153	41.0	132	35.4
Coopers [1]	166	44.5	143	38.3
Brush making: [1]				
Skilled male workers	149	39.9	119	31.9
Unskilled male workers	135	36.2	106	28.4
Female workers	85	22.8	71	19.0
Wood turners [1]	137	36.7	132	35.4
Carriage makers [1]	174	46.6	124	33.2
Wicker workers [1]	109	29.2	129	34.6
Cabinet makers [1]	154	41.3	133	35.6
Machine joiners [1]	151	40.5	121	32.4
Piano workers [1]	173	46.4	127	34.0
Frame workers [1]	178	47.7	128	34.3
Harness makers and paper hangers [1]	167	44.8	141	37.8
Unskilled woodworkers [1]	121	32.4	104	27.9
Leather and leather goods				
Tanneries:				
Skilled workers	168	45.0	152	40.7
Unskilled workers	156	41.8	137	36.7
Female workers	92	24.7	------	------
Leather-goods workers	157	42.1	------	------
Stone, clay, and glass				
Cement works: Unskilled workers	------	------	134	35.9
Cement casting foundries: Unskilled	191	51.2	119	31.9
Glass cutters	183	49.0	156	41.8
Glass makers	------	------	152	40.7
Ceramic industry:				
Skilled workers	171	45.8	137	36.7
Unskilled workers	132	35.4	109	29.2
Female workers	99	26.5	73	19.6
Stonecutters:				
Skilled workers	184	49.3	118	31.6
Unskilled workers	140	37.5	108	28.9
Metal				
Tinsmiths [1]	178	47.7	150	40.2
Electricians [1]	160	42.9	141	37.8
Molders [1]	195	52.3	156	41.8
Gold, silver, and electroplate workers [1]	147	39.4	133	35.6
Brass workers [1]	152	40.7	134	35.9
Coppersmiths [1]	197	52.8	168	45.0

[1] For changes in wage rates made by 1931 agreement, see pp. 946–947.

TABLE 2.—AVERAGE HOURLY EARNINGS IN DANISH INDUSTRIES IN 1930—Continued

Industry and class of worker	Average hourly earnings			
	Copenhagen		Provinces	
	Danish currency	United States currency	Danish currency	United States currency
Metal—Continued				
	Øre	Cents	Øre	Cents
Painters [1]	225	60.3	167	44.8
Metal grinders [1]	172	46.1	142	38.1
Metal pressers [1]	178	47.7	145	38.9
Ship's carpenters [1]	189	50.7	153	41.0
Smiths and machinists [1]	171	45.8	143	38.3
Woodworkers in machine shops [1]	165	44.2	145	38.9
Other skilled metal workers [1]	178	47.7	137	36.7
Unskilled workers [1]	132	35.4	120	32.2
Female workers [1]	91	24.4	75	20.1
Chemical, etc.				
Dye and lacquer: [1]				
Unskilled workers	116	31.1	----	----
Female workers	66	17.7	----	----
Dyeing establishments:				
Male workers, skilled	141	37.8	142	38.1
Unskilled workers	113	30.3	116	31.1
Female workers	80	21.4	70	18.8
Down and feather factories:				
Unskilled workers	123	33.0	----	----
Female workers	64	17.2	----	----
Fodder-stuff factories:				
Unskilled workers	125	33.5	108	28.9
Rubber factories:				
Unskilled workers	136	36.4	133	35.6
Female workers	78	20.9	78	20.9
Insulation installers	219	58.7	157	42.1
Chemical factories:				
Unskilled male workers	114	30.6	108	28.9
Female workers	66	17.7	62	16.6
Edible oil and margarine factories: [1]				
Unskilled male workers	141	37.8	139	37.3
Female workers	80	21.4	72	19.3
Chemical, etc.—Con.				
Mineral-oil refineries: [1]				
Unskilled male workers	131	35.1	----	----
Female workers	72	19.6	----	----
Sulphuric-acid factories:				
Unskilled male workers	136	36.4	134	35.9
Soap factories: [1]				
Unskilled male workers	125	33.5	106	28.4
Female workers	83	22.2	64	17.2
Tar-paper factories: Unskilled male workers	148	39.7	----	----
Match factories:				
Unskilled male workers	139	37.3	----	----
Female workers	82	22.0	----	----
Various chemical industries:				
Unskilled male workers	135	36.2	130	34.8
Female workers	80	21.4	----	----
Paper				
Paper factories:				
Male workers	119	31.9	114	30.6
Female workers	93	24.9	79	21.2
Paper-goods industry:				
Unskilled male workers	122	32.7	----	----
Female workers	82	22.0	71	19.0
Box factories:				
Unskilled male workers	117	31.4	137	36.7
Female workers	90	24.1	82	22.0

[1] For changes in wage rates made by 1931 agreement, see pp. 946–947.

New Trade Agreements of 1931

A NUMBER of trades (noted in the preceding table) made new agreements with the Employers' Association in the spring of 1931. The trades affected are those engaged in the various branches of the metal, wood, shoe, sugar, oil, dye, and soap industries.

All of these agreements include a provision allowing a paid vacation of six working-days to every worker who has been employed at least eight weeks in the same shop. The pay for this vacation is estimated to be 2 per cent of the total annual earnings.

The metal-trades agreements also provide for a minimum wage of 1.10 kroner (29.5 cents) per hour for male workers; hourly wages between 1.10 and 1.50 kroner (29.5 and 40.2 cents) are to be reduced by 5 per cent but not below 1.10 kroner, hourly wages of 1.50 kroner

and over are to be reduced by 8 per cent but not below 1.43 kroner (38.3 cents), and piece rates are to be reduced by 6 to 8 per cent. For female workers in the metal industries, a minimum wage of 70 øre (18.8 cents) per hour is maintained, and the piece rates are reduced by 4 per cent.

In the agreements between the Employers' Association and the various trades of the wood industry, the same reductions take place as in the agreements with the metal workers, and the employers abandon the right formerly reserved to them to adjust wages according to the price index figure.

In the other agreements of 1931 there are reductions in the wage rates of approximately 4 to 5 per cent, and a stipulation, as far as the organized workers in the oil, soap, and dye industries are concerned, that the minimum pay per week must be 52 kroner ($13.94).

There are, of course, no statistics showing average earnings per hour, day or week of workers under the new agreements of 1931. The reduction of such earnings in 1931, as compared with earnings in 1930, will be considerable, however. Not only must the reductions in wages of 4 to 5 per cent be taken into consideration, but the much heavier degree of unemployment must be reckoned with. It may safely be estimated that the unemployment in 1931 will average 25 per cent as against 13.7 per cent in 1930. If the reduction of wages be estimated at 4 per cent, the average wage earnings of 1931, as compared with those of 1930, will be at a ratio of approximately 5 to 6, according to expert opinion.

Wages in the Textile Industry

THE wages paid in the textile industry are considered to be among the lowest in Denmark. According to an agreement of 1925, wage rates were to be adjusted according to the cost-of-living index figure. As this figure has dropped continually since 1925 and as the wages were considered to be below the cost-of-living level, the wage rates have not been changed since 1928. At the renewal of the agreement in 1931, the same wage rates were maintained, but the proviso of wage adjustment according to the cost-of-living index figure was finally dropped.

In the textile industry of Denmark sex and age differences are recognized, as will be observed from the table following.

TABLE 3.—HOURLY EARNINGS IN THE DANISH TEXTILE INDUSTRY IN 1931

[Conversions into United States currency on basis of krone=26.8 cents]

Period of service, or occupation	Earnings per hour [1]							
	Males				Females			
	Copenhagen		Provinces		Copenhagen		Provinces	
	Danish currency	United States currency	Danish currency	United States currency	Danish currency	United States currency	Danish currency	United States currency
	Kroner	*Cents*	*Kroner*	*Cents*	*Kroner*	*Cents*	*Kroner*	*Cents*
14 to 15 years	28	7.5	27	7.2	28	7.5	27	7.2
15 to 16 years	34	9.1	32	8.6	33	8.8	31	8.3
16 to 17 years	45	12.1	42	11.3	41	11.0	39	10.5
17 to 18 years	50	13.4	50	13.4	48	12.9	47	12.6
18 to 19 years:								
First 3 months	85	22.8	83	22.2	53	14.2	51	13.7
Thereafter	90	24.1	86	23.0	58	15.5	56	15.0
19 to 20 years:								
First 3 months	89	23.9	85	22.8	55	14.7	52	13.9
Thereafter	90	24.1	90	24.1	59	15.8	57	15.3
Over 20 years:								
First 3 months	91	24.4	88	23.6	57	15.3	54	14.5
Thereafter	98	26.3	94	25.2	61	16.3	59	15.8
	Earnings per week [2]							
Warpers:	*Kroner*		*Kroner*		*Kroner*		*Kroner*	
First six months	60.00	$16.08	58.00	$15.54				
Thereafter	63.00	16.88	61.00	16.35				
Spoolers, skilled					30.12	$8.07		
Knitters, skilled					34.76	9.32		
Knitters, unskilled					28.78	7.71		
All employees:								
First month							11.35	$3.04
Second month							13.78	3.69
Third month							16.22	4.35
Fourth month							18.65	5.00
Fifth month							21.09	5.65
Sixth month							23.51	6.30
Thereafter							26.76	7.17

[1] On the night shifts (6 p. m. to 6 a. m.), 16 øre (4.29 cents) per hour extra is paid to male workers, and 13 øre (3.48 cents) per hour extra to female workers.

[2] On the night shifts (6 p. m. to 6. a m.), 13 øre (3.48 cents) per hour extra is paid to the female workers in the Provinces.

Average Yearly Earnings in Various Industries

THE Bureau of Labor in Copenhagen has published certain statistics giving the average yearly earnings of workers in the various trades and industries in Copenhagen and these are given in the table following:

TABLE 4.—AVERAGE YEARLY EARNINGS OF DANISH WORKERS, 1929-30

[Conversions into United States currency on basis of krone=26.8 cents]

Occupation, or class of workers	Average yearly earnings		Occupation, or class of workers	Average yearly earnings	
	Danish currency	United States currency		Danish currency	United States currency
	Kroner			*Kroner*	
Superintendents	4,842	$1,298	Cooks ashore, male	3,089	$828
Bakery and confectionery workers	2,380	638	Leather and skin workers	3,224	864
Carvers and stucco workers	2,518	675	Painters	3,139	841
Plumbers	3,392	909	Dairy workers	2,075	557
Brewery workers	2,589	694	Metal workers	3,275	878
Coopers	2,988	801	Metal pressers	3,215	862
Brush-factory workers	2,259	605	Mill workers	2,599	697
Technicians	4,553	1,220	Paper workers	2,405	645
Female workers, various industries	1,625	436	Rope makers	1,791	480
Ceramic industry	2,653	711	Sail makers	3,565	955
Turners	2,646	709	Harness makers and paper hangers	3,115	835
Electricians	2,850	764	Ship's carpenters	3,535	947
Gilders	2,695	722	Shoe workers	2,264	607
Gardeners	2,387	640	Chewing-tobacco factory workers	2,331	625
Glass workers	3,218	862	Tailors	2,223	596
Gold, silver, and electroplate workers	2,256	605	Butchers and meat industry workers	2,698	723
Brass and metal workers	3,083	826	Joiners	2,811	753
Hat makers and furriers	2,048	549	Stone workers	2,459	659
Carriage makers	3,261	874	Candy, chocolate, and biscuit workers	1,832	491
Boiler and engine tenders	2,792	748	Textile workers	1,905	511
Coppersmiths	4,210	1,128	Tobacco workers	2,588	694
Wicker workers	2,202	590	Wood industry workers	2,447	656
Agricultural workers	1,248	334	Carpenters	2,713	727

Wages in Agriculture

THE agricultural workers in Denmark are more numerous than the workers in all other walks of life. Of these, many own the land on which they work or the land belongs to their parents. The agricultural workers who are hired out on farms in which they have no property interest, either for the year, for the season, or per day, number about 300,000. Only about 15,000 of this number are organized.

The 48-hour working week is not observed in agricultural work in Denmark. In accordance with an agreement between various farmers and the organized agricultural laborers of Denmark, the following hours are worked: 10 from April 1 to October 31, 9 from November 1 to November 14, 8½ from November 15 to November 30, 8 from December 1 to February 28, 8½ from March 1 to March 14, and 9 from March 15 to March 31.

According to the Danish Statistical Department, the following wages were paid, during the year ending April 30, 1931, to laborers engaged for the season or by the day.

TABLE 5.—WAGES OF AGRICULTURAL WORKERS IN DENMARK, YEAR ENDING APRIL 30, 1931

[Conversions into United States currency on basis of krone=26.8 cents]

Age and class of workers	Season	Rate per season with board and lodging	
		Danish currency	United States currency
		Kroner	
Farm laborers:			
Under 17 years	Apr. 1 to Oct. 31	248	$66.46
	Nov. 1 to Mar. 31	152	40.74
17 to 21 years	Apr. 1 to Oct. 31	360	96.48
	Nov. 1 to Mar. 31	209	56.01
21 years and over	Apr. 1 to Oct. 31	429	114.97
	Nov. 1 to Mar. 31	243	65.12
Foremen	Apr. 1 to Oct. 31	476	127.57
	Nov. 1 to Mar. 31	283	75.84
Stable foremen	Apr. 1 to Oct. 31	488	130.78
	Nov. 1 to Mar. 31	405	108.54
Female farm laborers:			
Under 18 years	Apr. 1 to Oct. 31	205	54.94
	Nov. 1 to Mar. 31	172	46.10
18 years and over	Apr. 1 to Oct. 31	255	68.34
	Nov. 1 to Mar. 31	218	58.42
		Rate per day with board	
		Kroner	
Farm laborers engaged by the day	Summer	4.19	$1.12
	Harvest	4.76	1.28
	Winter	3.18	.85
Farm laborers engaged for a certain period, but not for whole season	Summer	3.70	.99
	Harvest	4.17	1.12
	Winte-	2.98	.80
		Rate per day, without board	
		Kroner	
Farm laborers engaged by the day	Summer	5.49	$1.47
	Harvest	6.15	1.65
	Winter	4.69	1.26
Farm laborers engaged for a certain period, but not for whole season	Summer	4.78	1.28
	Harvest	5.51	1.48
	Winter	4.28	1.15

No statistics are published regarding the workers engaged in agricultural industries such as dairying and bacon production. The reason for this is that the cooperative bacon factories, slaughterhouses, and dairies which are spread all over the country and which embrace nearly all establishments in their respective activities, are not members of the Employers' Association. The following figures, showing wage rates for 1930, have, however, been furnished by the statistical department:

TABLE 6.—AVERAGE HOURLY EARNINGS IN DANISH SLAUGHTERHOUSES AND DAIRIES, 1930

[Conversions into United States currency on basis of krone=26.8 cents]

Class of establishment and worker	Average hourly earnings		
	Period	Amount	
		Danish currency	United States currency
Slaughterhouses:		*Kroner*	
Unskilled male workers	Per hour	1.33	$0.36
Unskilled female workers	do	.78	.21
Dairies, trained dairymen [1]	Per week	45.00	12.06

[1] Rate includes pay for work on Sunday.

General Survey of Wages in Norway, 1930 and 1931 [1]

ALL NORWEGIAN industries are now operating on the basis of an 8-hour day, with a maximum of 48 working hours per week. The working hours may be reduced in certain industries, but under the law the maximum of 48 hours per week can not be exceeded. Ordinarily, the working hours are 8½ for each of the first five days and 5½ on Saturday.

Overtime generally is paid for at the regular rate plus 25 per cent for the first two hours and plus 50 per cent thereafter. For work on Saturday afternoons and Sundays double rates are paid.

In most industries paid holidays are fixed by collective agreement. Vacations usually are of one to two weeks' duration, and generally the employee receives wages during his vacation.

Family allowances are no longer paid in Norway. Some of the large paper mills, mining concerns, power plants, and other industries, however, furnish their employees living quarters at nominal rentals.

Under laws now in existence there are no special wage taxes, but all workers are subject to the general income tax. Deduction of personal taxes of employees by the firm is widely practiced in Norway, as the Government has the right to request the employer to withhold the amount of the employee's taxes and turn it over to the Government. Likewise, the employer must deduct the employee's contributions for health insurance. Compulsory insurance against illness exists in all branches of industry, and is applicable to all workers with an annual income not over a certain basic level, at present 4,500 kroner ($1,260).[2] Under the law now in force, the employee pays six-tenths, the employer one-tenth, the municipality one-tenth, and the Federal Government two-tenths of the cost. The worker's share is generally deducted from his wages.

Wages and Earnings in 1930

TABLE 1 shows the average rates of wages per hour, per day, or per week in specified trades in Norway as a whole, and in the cities of Oslo and Stavanger, in 1930.

[1] This report was prepared, late in 1931, by Thomas H. Bevan, American consul general, Oslo; George Orr, consul, Stavanger; and E. Talbot Smith, consul, Bergen.

[2] Conversions into United States currency on basis of krone=26.8 cents.

TABLE 1.—AVERAGE WAGE RATES IN SPECIFIED TRADES IN NORWAY, AND IN OSLO AND STAVANGER, 1930

[Conversions into United States currency on basis of krone=26.8 cents]

Trade, industry, and city	Average rates of wages					
	Per hour		Per day		Per week	
	Norwegian currency	United States currency	Norwegian currency	United States currency	Norwegian currency	United States currency
	Kroner	*Cents*	*Kroner*		*Kroner*	
Carpenters	1.44	38.6			69.00	$18.49
Bricklayers	1.55	41.5			74.00	19.83
Building laborers	1.40	37.5			67.00	17.96
Painters	1.49	39.9			72.00	19.30
Bakers					71.00	19.03
Shoemakers, hand					56.00	15.01
Tailors					63.00	16.88
Cement workers	1.38	37.0			66.00	17.69
Teamsters					56.00	15.01
Chauffeurs, commercial					62.00	16.62
Laundry workers, female					32.00	8.58
Paper industry:						
Cellulose-factory workers			10.46	$2.80		
Paper-mill workers			9.82	2.63		
Pulp-mill workers			9.94	2.66		
Average			10.03	2.69		
Lumber industry:						
Sawmill workers, inside			10.92	2.93		
Sawmill laborers, inside			9.93	2.66		
Mill-yard workers			10.58	2.84		
Average			10.50	2.81		
Metal industry:						
Workers, skilled	1.52	40.7				
Laborers	1.27	34.0				
Mining industry:						
Underground and surface workers	1.31	35.1				
City of Oslo						
Carpenters	1.47	39.4				
Bricklayers	1.53	41.0				
Building laborers	1.40	37.5				
Painters	1.53	41.0				
Bakers					76.00	20.37
Shoemakers					60.00–65.00	16.08–17.42
Tailors					68.67	18.40
Barbers					70.00	18.76
Metal workers:						
Skilled	1.25–1.35	33.5–36.2				
Unskilled	1.00–1.15	26.8–30.8				
Brewery workers:						
Male	1.35–1.49	36.2–39.9				
Female	1.00	26.8				
Tobacco workers:						
Male			9.15–10.20	2.45–2.73		
Female			5.00–5.60	1.34–1.50		
Cement and other foundation workers	1.40	37.5				
Longshoremen					60.00	16.08
Teamsters					60.00–69.00	16.08–18.49
Garden and greenhouse workers:						
Male	1.00–1.20	26.8–32.2				
Female			6.40–7.20	1.72–1.93		
Seamstresses, factory					30.00–40.00	8.04–10.72
Laundry workers, female					30.00–35.00	8.04– 9.38
City of Stavanger						
Fish-cannery workers:						
Male	1.08	28.9				
Female	.63	16.9				
Machinists	1.20	32.2				
Machinists' helpers	1.00	26.8				
Herring salters					48.00–52.00	12.86–13.94
Tailors, male					57.00	15.28
Seamstresses					40.00	10.72

Wages in the Shipping Industry

Wage rates in the shipping industry for seamen on vessels in the foreign trade are shown in Table 2, for Oslo and other seaports of Norway as of June, 1930.

TABLE 2.—WAGES PER MONTH OF SEAMEN ON NORWEGIAN VESSELS IN FOREIGN TRADE, JUNE, 1930

[Conversions into United States currency on basis of krone=26.8 cents]

Occupation	Monthly wages in European trade						Monthly wages in trans-Atlantic trade.					
	Oslo		27 other seaports				Oslo		5 other seaports			
			Average rate		Minimum and maximum rates				Average rate		Minimum and maximum rates	
	Norwegian currency	U. S. currency	Norwegian currency	U. S. currency	Norwegian currency	U. S. currency	Norwegian currency	U. S. currency	Norwegian currency	U. S. currency	Norwegian currency	U. S. currency
	Kr.		*Kr.*		*Kr.*		*Kr.*		*Kr.*		*Kr.*	
First mates	400	$107	325	$87	250–375	$67–101	410	$110	396	$106	375–409	$101–110
Second mates	320	86	254	68	221–300	59– 80	340	91	333	89	300–356	80– 95
Third mates	------	------	203	54	120–250	32– 67	240	64	235	63	200–270	54– 72
Boatswains	167	45	169	45	167–177	45– 47	167	45	169	45	167–173	45– 46
Carpenters	------	------	170	46	160–185	43– 50	167	45	169	45	167–173	45– 46
Seamen:												
Able	150	40	150	40	132–157	35– 42	150	40	150	40	150	40
Ordinary	80	21	79	21	65– 81	17– 22	80	21	81	22	80– 83	21– 22
Apprentice	57	15	56	15	40– 57	11– 15	57	15	57	15	57	15
Deck boys	38	10	39	10	38– 48	10– 13	38	10	38	10	38	10
Stewards	315	84	252	68	232–280	62– 75	315	84	314	84	267–375	72–101
Cooks	233	62	182	49	145–225	39– 60	215	58	209	56	191–219	51– 59
First engineers	415	111	401	107	300–513	80–137	565	151	512	137	478–564	128–151
Second engineers	315	84	303	81	256–345	69– 92	385	103	382	102	369–408	99–109
Third engineers	300	80	251	67	180–284	48– 76	325	87	291	78	273–300	73– 80
Donkey men	167	45	167	45	167	45	167	45	174	47	167–195	45– 52
Firemen	155	42	155	42	155	42	155	42	155	42	155	42
Coal trimmers	87	23	87	23	87	23	87	23	87	23	87– 88	23– 24

Wages in 1931

As a result of strikes and lockouts affecting many Norwegian industries during the period April-September, 1931, a compromise settlement was reached about mid-September, the effect of which was a general average reduction in wages amounting to about 6 per cent.

The decision of the Norwegian Government on September 27, 1931, to suspend the gold standard temporarily has also changed the value of wages currently paid in relation to the gold standard equivalent of the dollar.

On September 5, 1931, a wage agreement became effective for iron, metal, and foundry workers in Norway. The agreement provided the same minimum wages as in the previous agreement (of 1929), 1.02 kroner (27.3 cents) per hour for skilled workers and 0.90 krone (24.1 cents) per hour for unskilled. From January 1, 1932, the minimum wages will be reduced to 0.95 krone (25.5 cents) for skilled workers and 0.84 krone (22.5 cents) for unskilled. The reduction in minimum wages will, however, take place only for workers newly employed. The time wages are to be reduced in the following way: For men, 0.09 krone (2.4 cents) for all wages of 1.13 kroner (30.3 cents) and over, but not below 1.05 kroner (28.1 cents), 0.07 krone (1.9 cents)

for all wages of 1.12 kroner (30.0 cents) or less but not below 1.05 kroner (28.1 cents) for skilled workers and 1.00 krone (26.8 cents) for unskilled. The reduction in the time wages for woman workers is 6 per cent. Working hours must not exceed 48 per week. Overtime is fixed at 25 per cent additional for the first 2 hours on any of the first 5 working days of the week and 50 per cent additional after that; for Saturday afternoons and Sundays double time. The agreement expires April 1, 1934. The wages can be regulated, according to the cost-of-living index figures, in December, 1932.

Table 3 shows, for the Bergen district, the rates paid in the various industries in 1931:

TABLE 3.—WAGES IN SPECIFIED INDUSTRIES IN BERGEN, NORWAY, IN 1931

[Conversions into United States currency on basis of krone=26.8 cents]

Industry, and class of worker	Average wages					
	Per hour		Per day		Per week	
	Norwegian currency	United States currency	Norwegian currency	United States currency	Norwegian currency	United States currency
Shoe factories:	*Kroner*	*Cents*	*Kroner*		*Kroner*	
Men	0.95	25.5	7.60	$2.04	45.60	$12.22
Women	.62	16.6	4.96	1.33	29.76	7.98
Contract work—						
Men	1.40	37.5				
Women	.90	24.1				
Textile mills:						
Men	.95	25.5	7.60	2.04	45.60	12.22
Women	.53	14.2	4.24	1.14	25.44	6.82
Mining:						
Skilled workers	1.40	37.5	11.20	3.00	67.20	18.01
Shift workers	1.30	34.8	10.40	2.79	62.40	16.72
Day workers	1.22	32.7	9.76	2.62	58.56	15.69
Shipbuilding and repair:						
Acetylene burners	1.14	30.6	9.12	2.44	54.72	14.67
Blacksmiths, heavy fire	1.25	33.5	10.00	2.68	60.00	16.08
Blacksmiths' helpers	1.11	29.7	8.88	2.38	53.28	14.28
Boilermakers	1.27	34.0	10.16	2.72	60.96	16.34
Boilermakers' helpers	1.12	30.0	8.96	2.40	53.76	14.41
Carpenters, ship	1.26	33.8	10.08	2.68	60.48	16.21
Calkers, iron	1.22	32.7	9.76	2.62	58.56	15.69
Chippers, iron	1.20	32.2	9.60	2.57	67.60	18.12
Coppersmiths	1.29	34.6	10.24	2.74	61.44	16.57
Coppersmiths' helpers	1.11	29.7	8.88	2.38	53.28	14.28
Drillers	1.11	29.7	8.88	2.38	53.28	14.28
Electricians	1.35	36.2	10.80	2.89	64.80	17.37
Electricians' helpers	1.26	33.8	9.28	2.49	55.68	14.92
Joiners	1.24	33.2	9.92	2.66	59.52	15.95
Laborers	1.01	27.1	8.08	2.17	48.48	12.99
Machinists, inside	1.25	33.5	10.00	2.68	60.00	16.08
Machinists' helpers, inside	1.08	28.9	8.64	2.32	51.84	13.89
Pattern makers	1.25	33.5	10.00	2.68	60.00	16.08
Pipefitters	1.28	34.3	10.24	2.74	61.44	16.57
Pipefitters' helpers	1.11	29.7	8.88	2.38	53.28	14.28
Plumbers	1.28	34.3	10.24	2.74	61.44	16.57
Plumbers' helpers	1.11	29.7	8.88	2.38	53.28	14.28
Riveters	1.24	33.2	9.92	2.66	59.52	15.95
Riveters, heater	.87	23.3	6.96	1.87	41.76	11.19
Riveters, holder-on	1.20	32.2	9.60	2.57	67.60	18.12
Riveters, passer boy	.73	19.6	5.84	1.57	35.04	9.38
Sheet-metal workers	1.24	33.2	9.92	2.66	59.52	15.95
Sheet-metal workers' helpers	1.06	28.4	8.48	2.27	50.88	13.64
Shipfitters	1.25	33.5	10.00	2.68	60.00	16.08
Shipfitters' helpers	1.06	28.4	8.48	2.27	50.88	13.64
Tinsmiths	1.28	34.3	10.24	2.74	61.44	16.57
Tinsmiths' helpers	1.11	29.7	8.88	2.38	53.28	14.28
Welders, acetylene	1.27	34.0	10.16	2.72	60.96	16.34
Welders, electric	1.30	34.8	10.40	2.79	62.40	16.72
Wood calkers	1.26	33.8	10.08	2.70	60.48	16.21

Wages in Agriculture

EARNINGS of agricultural workers in Norway for the working year 1930–31, appear in Table 4.

TABLE 4.—AVERAGE EARNINGS OF AGRICULTURAL WORKERS IN NORWAY, 1930-31
[Conversions into United States currency on basis of krone=26.8 cents]

Occupation and season	Average earnings per day							
	With board and lodging				Without board and lodging			
	Males		Females		Males		Females	
	Norwegian currency	United States currency	Norwegian currency	United States currency	Norwegian currency	United States currency	Norwegian currency	United States currency
Temporary employees								
Farm laborers:	*Kroner*		*Kroner*		*Kroner*		*Kroner*	
Planting and sowing season	3.22	$0.86	2.04	$0.55	4.72	$1.26	3.15	$0.84
Mowing season	3.70	.99	2.28	.61	5.14	1.38	3.37	.90
Harvest season	3.20	.86	2.17	.58	4.71	1.26	3.29	.88
Other seasons, summer	2.94	.79	1.84	.49	4.43	1.19	2.96	.79
Other seasons, winter	2.47	.66	1.63	.44	3.90	1.05	2.72	.73
Ditch diggers:								
Summer	3.68	.99	.....	.....	5.22	1.40	.....	.....
Winter	3.17	.85	.....	.....	4.64	1.24	.....	.....
Forest workers:								
Summer	3.40	.91	.....	.....	4.97	1.33	.....	.....
Winter	2.99	.80	.....	.....	4.51	1.21	.....	.....
Stonemasons:								
Summer	4.82	1.29	.....	.....	6.40	1.72	.....	.....
Winter	4.17	1.12	.....	.....	5.67	1.52	.....	.....
Carpenters:								
Summer	5.03	1.35	.....	.....	6.65	1.78	.....	.....
Winter	4.26	1.14	.....	.....	5.92	1.59	.....	.....
Permanent employees								
Farm hands:								
Full year	[1] 491.00	[1] 131.59	[1] 338.00	[1] 90.58	.....	.....	.....	.....
Summer half year	[1] 287.00	[1] 76.92	[1] 188.00	[1] 50.38	.....	.....	.....	.....
Winter half year	[1] 209.00	[1] 56.01	[1] 156.00	[1] 41.81	.....	.....	.....	.....
Stock tenders:								
Full year	[1] 650.00	[1] 174.20	[1] 459.00	[1] 123.01	.....	.....	.....	.....
Summer half year	[1] 332.00	[1] 88.98	[1] 239.00	[1] 64.05	.....	.....	.....	.....
Winter half year	[1] 325.00	[1] 87.10	[1] 230.00	61.64	.....	.....	.....	.....

[1] Per season.

General Survey of Wages in Sweden, 1930 and 1931 [1]

LABOR in Sweden has reached a very high stage of organization, and only a small percentage of the workers are unorganized. As employers are also largely grouped into trade organizations, the system of collective agreements has been very widely adopted.

A number of the collective agreements cover the whole country, but the major part of those mentioned below are only locally applicable. There is a central court of arbitration, for the decision of disputes concerning the interpretation and application of collective agreements, established in accordance with a Swedish law of 1920. This court consists of 7 members, of which the Government appoints 3 and the central organizations on both sides 2 each.

The standard of living and wages of workers engaged in agriculture is considerably lower than in the manufacturing industries.

[1] This report was prepared, late in 1931, by John Ball Osborne, American consul general, Stockholm; Robert Harnden, consul, and Tor Fernholm, Goteborg; and Christian T. Steger, consul, and Philip Wilkens, Malmo.

About one-third of the total number of workers in Swedish manufacturing industries are engaged in the production of export goods, about two-fifths of the total in the manufacture for domestic consumption without foreign competition, and in transportation, and one-fourth of the workers in home market industries subject to competition from abroad.

Wages are in general highest in the second group, which includes the foodstuff industries, building and building materials, shoe and rubber factories, joinery and furniture factories, and certain others. The export industries include sawmills, pulp and paper mills, export ore mines, large machinery producers, and the stone industry, while the domestic industries subject to foreign competition are those manufacturing textiles and clothing, glass and china, and certain chemical and related products; the necessity of meeting international competition has forced wages in these groups of industries to a lower level than in the protected home market group. These differences are most noticeable in the larger Swedish cities and industrial localities, and are less pronounced in places where the cost of living is lower.

The relation between wages paid to workers of different sexes in Sweden is illustrated by the fact that in 1927 female workers received on an average 58 per cent of the amounts paid to male workers. In the textile industries and the bakeries, the average was higher, about 66 per cent, but in establishments manufacturing sewn articles it was about 50 per cent.

Since 1913, wages per hour in the export industry group have risen by 138 per cent, and in the protected home market group by 193 per cent. Wages per year have not risen in the same proportion, due principally to the introduction, a number of years ago, of the 8-hour working-day. These earnings have shown a rise of from 151 to 183 per cent in electrical workshops, yeast factories, bakeries, and building, and from 83 to 100 per cent in the china factories, shoe factories, certain other leather and rubber goods industries, and raw sugar mills.

The normal working time is fixed by law at 48 hours per week, and in most branches of activity this time is divided so that the laborers work 8½ hours daily, except Saturdays, when the working time is 5½ hours. Overtime work is permitted up to a total of 200 hours per year. An additional 150 hours' overtime may be allowed upon application to the labor council, and in emergency cases further overtime work may be permitted.

Employers in the various industries are compelled to pay compensation to persons injured during their work or, in case of death, to their dependents. For this reason practically all employers insure their workers in the State insurance office (*Riksförsäkringsanstalten*). The legislation now in force was effected in 1916, and it covers almost all accidents occurring during the performance of work on account of another person. The costs of insurance are covered by fees paid by the employers.

Wages in Various Industries in Sweden

IN THE following pages are shown wage rates and earnings and other pertinent data covering wage earners in Swedish industries and in agriculture.

Table 1 shows the average yearly, daily, and hourly earnings in various industries, by sex and age, in 1931.

TABLE 1.—AVERAGE EARNINGS PER YEAR, DAY, AND HOUR IN VARIOUS INDUSTRIES IN SWEDEN IN 1931

[Conversions into United States currency on basis of krona=26.8 cents

Industry and sex	Average earnings					
	Per year		Per day		Per hour	
	Swedish currency	United States currency	Swedish currency	United States currency	Swedish currency	United States currency
	Kronor		*Kronor*		*Kronor*	*Cents*
Metal mines	2,728	$731	9.26	$2.48		
Men	2,908	779	9.89	2.65	1.22	32.7
Women	1,843	494	6.43	1.72	.82	22.0
Minors	1,257	337	4.33	1.16	.55	14.7
Mines and concentrators	3,512	941	10.72	2.87		
Men	3,615	969	11.08	2.97	1.61	43.1
Minors	1,495	401	4.95	1.33	.64	17.1
Central Sweden	2,490	667	8.85	2.37		
Men	2,567	688	9.17	2.46	1.14	30.6
Minors	1,247	334	4.11	1.10	.52	13.9
North Sweden	4,876	1,307	15.01	4.02		
Men	4,981	1,335	15.42	4.13	2.25	60.3
Minors	1,996	535	7.18	1.92	.88	23.6
Iron, steel, and copper mines	2,428	651	7.92	2.12		
Men	2,518	675	8.15	2.18	1.03	27.6
Minors	1,167	313	3.41	.91	.51	13.7
Iron and steel manufacture	2,351	630	7.68	2.06		
Men	2,643	708	8.85	2.37	1.10	29.5
Women	1,394	374	4.66	1.25	.60	16.1
Minors	1,092	293	3.80	1.02	.50	13.4
Machine shops	2,754	738	9.46	2.54		
Men	2,898	777	9.90	2.65	1.22	32.7
Women	1,950	523	6.48	1.74	.86	23.0
Minors	1,335	358	4.57	1.22	.57	15.3
Electrical shops	2,804	751	9.61	2.58		
Men	3,211	861	10.85	2.91	1.35	36.2
Women	2,088	560	7.30	1.96	.95	25.5
Minors	1,207	323	4.19	1.12	.55	14.7
Metal manufacturing	2,508	672	8.41	2.25		
Men	2,900	777	9.74	2.61	1.23	32.9
Women	1,902	510	6.76	1.81	.84	22.5
Gold and silverware manufacturing	2,931	786	10.35	2.77		
Men	3,756	1,007	13.12	3.52	1.70	45.6
Women	1,970	528	7.14	1.91	.93	24.9
Earth and stone industry			7.19	1.93		
Men			7.58	2.03	.93	24.9
Women			5.05	1.35	.65	17.4
Minors			3.53	.95	.44	11.8
Coal mining	2,284	612	7.93	2.13		
Men	2,344	628	8.14	2.18		
Peat works			5.60	1.50		
Men			5.74	1.54	.70	18.8
Quarrying and stonecutting			6.33	1.70		
Men			6.46	1.73	.81	21.7
Building material plants	2,219	595	7.82	2.10		
Men	2,310	619	8.10	2.17	.99	26.5
Porcelain, tile, and clay works	2,020	541	7.25	1.94		
Men	2,643	708	9.28	2.49	1.19	31.9
Women	1,526	409	5.41	1.45	.71	19.0
Glass works	1,571	421	6.60	1.77		
Men	1,773	475	7.38	1.98	.88	23.6
Minors	544	146	2.35	.63	.32	8.6
Crystal and table glass factories	1,295	347	5.82	1.56		
Men	1,500	402	6.80	1.82	.82	22.0
Window-glass factories	2,038	546	7.19	1.93		
Men	2,094	561	7.40	1.98	.89	23.9
Bottle works	2,518	675	8.72	2.34		
Men	2,555	685	8.85	2.37	1.05	28.1
Lumber and woodworking	2,155	578	7.90	2.12		
Men	2,301	617	8.42	2.26	1.00	26.8
Women	1,521	408	5.71	1.53	.67	18.0
Minors	1,077	289	4.05	1.09	.52	13.9
Log driving			9.53	2.55		
Men			9.67	2.59	1.07	28.7
Saw and planing mills	2,073	556	7.77	2.08		
Men	2,203	590	8.25	2.21	.97	26.0
Minors	1,133	304	4.26	1.14	.55	14.7

TABLE 1.—AVERAGE EARNINGS PER YEAR, DAY, AND HOUR IN VARIOUS INDUSTRIES IN SWEDEN IN 1931—Continued

Industry and sex	Average earnings					
	Per year		Per day		Per hour	
	Swedish currency	United States currency	Swedish currency	United States currency	Swedish currency	United States currency
	Kronor		*Kronor*		*Kronor*	*Cents*
Furniture making	2,241	$601	7.82	$2.10		
Men	2,420	649	8.44	2.26	1.04	27.9
Minors	925	248	3.20	.86	.43	11.5
Other woodworking	2,248	602	7.88	2.11		
Men	2,620	702	9.16	2.45	1.12	30.0
Paper and printing plants	2,642	708	9.15	2.45		
Men	2,849	764	9.87	2.65	1.14	30.6
Women	1,687	452	5.67	1.52	.72	19.3
Minors	1,089	292	3.71	.99	.47	12.6
Wood-pulp mills	2,729	731	9.47	2.54		
Men	2,785	746	9.64	2.58	1.11	29.7
Minors	1,303	349	4.63	1.24	.57	15.3
Paper and pasteboard manufacture	2,391	641	8.18	2.19		
Men	2,593	695	8.90	2.39	1.02	27.3
Women	1,466	393	5.16	1.38	.65	17.4
Minors	1,098	294	3.75	1.01	.48	12.9
Other paper manufacture	2,173	582	7.03	1.88		
Men	3,044	816	9.88	2.65	1.24	33.2
Women	1,790	480	5.64	1.51	.74	19.8
Printing plants	3,578	959	13.61	3.65		
Men	3,688	988	14.06	3.77	1.64	44.0
Women	2,432	652	8.80	2.36	.97	26.0
Minors	1,010	271	2.83	.76	.42	11.3
Food manufacture	2,769	742	9.55	2.56		
Men	3,276	878	11.19	3.00	1.27	34.0
Women	1,955	524	6.75	1.81	.82	22.0
Minors	1,070	287	3.88	1.04	.46	12.3
Mills	3,223	864	11.49	3.08		
Men	3,275	878	11.55	3.10	1.34	35.9
Yeast manufacture	3,222	863	11.60	3.11		
Men	3,368	903	12.16	3.26	1.32	35.4
Bakeries	3,002	809	10.53	2.82		
Men	3,660	981	12.38	3.32	1.51	40.5
Women	2,219	595	7.82	2.10	.97	26.0
Sugar manufacture	2,456	658	8.32	2.23		
Men	2,607	699	8.81	2.36	1.08	28.9
Women	1,699	455	5.85	1.57	.75	20.1
Chocolate and caramel plants	1,796	481	6.32	1.69	1.18	31.6
Men	2,857	766	10.03	2.69	1.18	31.6
Women	1,606	430	5.48	1.47	.66	17.7
Minors	951	255	3.81	1.02	.42	11.3
Breweries and soft drinks establishments	3,295	883	11.26	3.02		
Men	3,644	977	12.45	3.34	1.28	34.3
Women	2,154	577	7.39	1.98	.89	23.9
Tobacco manufacture	2,398	643	8.34	2.24		
Men	3,661	981	12.68	3.40	1.42	38.1
Women	2,041	547	7.06	1.89	.86	23.0
Slaughterhouses and conserve manufacture	2,648	710	8.98	2.41		
Men	3,171	850	10.85	2.91	1.31	35.1
Women	1,842	494	6.25	1.68	.79	21.2
Other foodstuffs manufactures	3,064	821	10.80	2.89		
Men	3,396	910	12.00	3.22	1.35	36.2
Textile mills and clothing factories	1,691	453	6.05	1.62		
Men	2,269	608	8.01	2.15	.94	25.2
Women	1,519	407	5.41	1.45	.67	18.0
Minors	915	245	3.34	.90	.44	11.8
Spinning, weaving, etc., mills	1,625	436	5.83	1.56		
Men	2,129	571	7.56	2.03	.88	23.6
Women	1,417	380	5.08	1.36	.63	16.9
Minors	932	250	3.44	.92	.44	11.8
Tailoring and sewing plants	1,906	511	6.86	1.84		
Men	3,275	878	11.34	3.04	1.39	37.3
Women	1,743	467	6.22	1.67	.78	20.9
Minors	870	233	3.28	.88	.45	12.1
Hat and cap manufacture	1,784	478	5.95	1.59		
Men	3,228	865	11.46	3.07	1.39	37.3
Women	1,657	444	5.71	1.53	.71	19.0
Leather, hair, and rubber plants	1,988	533	7.37	1.98		
Men	2,510	673	9.19	2.46	1.16	31.1
Women	1,560	418	5.69	1.52	.74	19.8
Minors	999	268	3.73	1.00	.48	12.9

TABLE 1.—AVERAGE EARNINGS PER YEAR, DAY, AND HOUR IN VARIOUS INDUSTRIES IN SWEDEN IN 1931—Continued

Industry and sex	Average earnings					
	Per year		Per day		Per hour	
	Swedish currency	United States currency	Swedish currency	United States currency	Swedish currency	United States currency
	Kronor		*Kronor*		*Kronor*	*Cents*
Tanneries	2,228	$597	7.90	$2.12		
Men	2,505	671	8.92	2.39	1.11	29.7
Fur manufacture	2,085	559	7.12	1.91		
Men	2,792	748	9.50	2.55	1.16	31.1
Women	1,685	452	5.80	1.55	.75	20.1
Shoe manufacture	1,875	503	7.06	1.89		
Men	2,384	639	9.05	2.43	1.19	31.9
Women	1,477	396	5.61	1.50	.74	19.8
Minors	940	252	3.55	.95	.47	12.6
Rubber-goods factories	2,042	547	7.95	2.13		
Men	2,831	759	10.31	2.76	1.17	31.4
Women	1,660	445	5.89	1.58	.74	19.8
Other related manufactures	2,152	577	7.52	2.02		
Men	2,549	683	8.94	2.40	1.14	30.6
Chemical-technical industry	2,309	619	7.98	2.14		
Men	2,740	734	9.27	2.48	1.15	30.8
Women	1,639	439	5.62	1.51	.71	19.0
Minors	1,219	327	4.15	1.11	.52	13.9
Dye, paint, oil, and perfume manufacture	2,304	617	7.72	2.07		
Men	2,788	747	9.12	2.44	1.15	30.8
Women	1,778	477	6.21	1.66	.74	19.8
Fertilizer manufacture	2,992	802	9.82	2.63		
Men	3,086	827	10.11	2.71	1.19	31.9
Explosives manufacture	2,593	695	9.13	2.45		
Men	2,991	802	10.37	2.78	1.24	33.2
Match manufacture	2,060	552	6.92	1.85		
Men	2,541	681	8.50	2.28		
Women	1,625	436	5.26	1.41		
Minors	1,340	359	4.68	1.25		
Other chemical-technical manufactures	2,443	655	8.27	2.22		
Men	2,696	723	9.12	2.44	1.15	30.8
Building industry			13.61	3.65		
Men			13.77	3.69	1.77	47.4
Minors			4.86	1.30	.62	16.6
Construction work			13.79	3.70		
Men			13.84	3.71	1.76	47.2
Painting and glazing work			12.25	3.28		
Men			13.20	3.54	1.81	48.5
Public works	3,603	966	13.24	3.55		
Men	3,623	971	13.33	3.57	1.45	38.9
Minors	1,678	450	5.91	1.58	.65	17.4
Power, lighting, and waterworks	3,413	915	12.10	3.24		
Men	3,426	918	12.16	3.26	1.39	37.3
Minors	1,365	366	4.69	1.26	.58	15.5
Building and construction works	3,471	930	12.66	3.39		
Men	3,488	935	12.74	3.41	1.47	39.4
Minors	1,640	440	5.69	1.52	.69	18.5
Street railways	3,997	1,071	15.20	4.07		
Men	4,033	1,080	15.36	4.12	1.55	41.5
Minors	1,854	497	6.61	1.77		
Commerce	2,744	735	9.39	2.52		
Men	3,063	821	10.49	2.81	1.25	33.5
Women	1,866	500	6.41	1.72	.79	21.2
Minors	873	234	2.94	.79	.35	9.4
Communication	3,174	851	9.22	2.47		
Men	3,180	852	9.28	2.49	1.39	37.3
Minors	945	253	3.08	.83	.38	10.2
Railways	2,820	756	7.34	1.97		
Men	2,824	757	7.36	1.97		
Minors	1,054	282	3.78	1.01		
Bus driving	3,076	824	10.23	2.74		
Men	3,311	887	11.06	2.96	1.27	34.0
Loading and unloading	4,138	1,109	14.48	3.88		
Men	4,138	1,109	14.48	3.88	1.79	48.0
Laundries	2,150	576	7.46	2.00		
Men	3,201	858	10.95	2.94	1.28	34.3
Women	1,844	494	6.24	1.67	.75	20.1
All groups	2,528	678	8.90	2.39	1.08	28.9
Men	2,846	763	9.99	2.68	1.20	32.2
Women	1,637	439	5.80	1.55	.72	19.3
Minors	1,099	295	3.92	1.05	.50	13.4

Goteborg District (Western Sweden)

IN THE following pages are given data as to wage rates and working conditions in some of the more important industries in Goteborg and vicinity.

The majority of employers and workers in the stone, glass and china, mining, metals and machine, paper and pulp, and wood and wood-products industries are organized, and wage scales are regulated by collective agreements, either national or local. National agreements are in force for the shoe factories, tanning establishments, joinery and furniture factories, saw and planing mills, paper and pulp industry, and textile industries, but wages in rubber-goods factories are regulated by special arrangements for each plant.

Payment for overtime.—In the mining, metal, and machine industries and in the clothing trades, for work on Sundays and holidays time and a half is paid, if the work is directly connected with the industry; all other work is paid for at double rates. For overtime on regular working days (except Saturday), the rate is time and a quarter for the first 2 hours and time and a half thereafter.

In the textile industry, overtime is paid for at the rate of 30 per cent above the regular rate for the first 2 hours' overtime or for time worked during a regular rest period; for other overtime on week days, at the rate of time and a half; and for work on Sundays and holidays, time and three-quarters.

Vacations.—In the textile and mining industries, during the months of June to August, each worker who has been employed since October 1, previous, is entitled to four days' paid vacation. In the clothing industry, six days' paid vacation is given, after one year's service.

In the clothing factories operated by large retail establishments, women who have been employed for 3 years or more are entitled to an annual paid vacation of 6 days, and to sick benefits of 2.65 kronor (71 cents) per day for 42 days. Other workers receive the same vacation period, but no sick benefits.

Payments supplementary to wages.—Workers in the textile industries, with dependent children or parents, receive certain family allowances, the monthly amount varying according to the number of dependents, as follows:

	Kronor	
1 dependent	5.00	($1.34)
2 dependents	8.00	($2.14)
3 dependents	11.00	($2.95)
4 dependents	14.00	($3.75)
5 dependents	17.00	($4.56)
6 or more dependents	20.00	($5.36)

In certain cotton mills not members of the employers' association, workers receive advantages such as free or cheap lodgings ($1.60 per room each month at the Floda mills), cheap firewood, garden plots, etc. Also, in certain mills the workers are entitled to free medical advice and medicine at half price.

In certain cases, workers in the clothing trades are given medical care, assistance in case of illness, and medicine at reduced rates.

A large sawmill near Goteborg gives its employees free medical advice for themselves and their families, free hospital treatment, and supplies firewood at low rates. Overalls are also supplied to certain outdoor workers.

One of the largest joineries in western Sweden pays 7 kronor ($1.88) per month as a rent allowance, and provides free medical and hospital treatment for the employees and their families.

Workers in the mining, metal, and machine industries in Goteborg receive no supplementary payments of any kind, with the exception of free passage across the river for shipbuilding workers, and special compensation for woodworkers using their own tools. Such compensation is paid in the following amounts: 36 kronor ($9.65) per year to workers who in the opinion of their foremen have a sufficient number of good tools; if tools are required costing more than 150 kronor ($40.20), the worker receives 12 per cent of the value of such tools above 150 kronor.

An electrochemical plant near Goteborg gives its employees free medical advice and medicine, besides hospital treatment for not to exceed 3 months. Carpenters using their own tools receive an allowance of 2.50 kronor (67 cents) per month. Free wooden shoes, aprons, boots, mittens, respirators, and certain other articles are provided by the company.

Wages in Leading Industries in the Goteborg District

The table following shows average time and piece rates and actual earnings, as disclosed by an official survey by the Royal Social Board (*Socialstyrelsen*) in 1929, when wage levels were, on the whole, the same as at present. Exceptions are the match industry in which the 1930 agreement raised the minimum rates shown by 0.03 krona (0.8 cent) per hour, and the paper industry where wages are somewhat higher than those shown hereafter.[2]

[2] For rates in specified occupations in the paper industry, see Table 7.

TABLE 2.—AVERAGE EARNINGS IN SPECIFIED INDUSTRIES IN GOTEBORG DISTRICT OF SWEDEN IN 1929

[Conversions into United States currency on basis of krona=26.8 cents]

Industry, and class of worker	Rate per hour				Average earnings (including overtime, payments in kind, etc.)—				Per cent of work done on piece-work basis
	Time work		Piece work		Per hour		Per day		
	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	
Earth and stone									
Stone quarrying, rough shaping, etc.: Men	*Kronor* 0.96	*Cents* 25.7	*Kronor* ------	*Cents* ------	*Kronor* .81	*Cents* 21.7	*Kronor* 8.14	$2.18	84.7
Glass works, producing—									
Cut glass: Men	.71	19.0	.95	25.5	.88	23.6	6.80	1.82	47.0
Window glass: Men	.70	18.8	.95	25.5	.93	24.9	7.40	1.98	76.7
Bottles: Men	.95	25.5	1.41	37.8	1.17	31.4	8.85	2.37	21.5
Brickyards: Men	.79	21.2	1.08	28.9	.98	26.3	7.58	2.03	51.6
Lime, chalk, and cement works: Men	.92	24.7	1.18	31.6	1.08	28.9	8.61	2.31	51.5
Chinaware factories:									
Men	1.06	28.4	1.26	33.8	1.22	32.7	9.56	2.56	68.9
Women	.53	14.2	.73	19.6	.71	19.0	5.37	1.44	89.4
Chemicals									
Match factories:									
Men	[1].73–.76	[1]19.6–20.4	[2]	------	1.07	28.7	8.50	2.28	44.4
Women	[1].47–.49	[1]12.6–13.1	[2]	------	.69	18.5	5.26	1.41	89.5
Minors	------	------	------	------	.59	15.8	4.68	1.25	53.0
Food, etc.									
Flour mills: Men	1.34	35.9	------	------	1.39	37.3	11.55	3.10	1.3
Raw-sugar mills:									
Men	1.05	28.1	1.37	36.7	1.09	29.2	8.67	2.32	2.2
Women	.61	16.3	.69	18.5	.63	16.9	4.84	1.30	.4
Sugar refineries:									
Men	1.07	28.7	1.39	37.3	1.14	30.6	8.96	2.40	10.0
Women	.69	18.5	.84	22.5	.79	21.2	5.95	1.59	48.7
Chocolate and candy factories:									
Men	1.17	31.4	1.34	35.9	1.23	33.0	10.03	2.69	9.1
Women	.63	16.9	.72	19.3	.68	18.2	5.48	1.47	38.9
Minors	.40	10.7	.46	12.3	.42	11.3	3.81	1.02	30.8
Breweries and malt works:									
Men	1.25	33.5	1.99	53.3	1.53	41.0	12.50	3.35	3.1
Women	.81	21.7	1.16	31.1	.97	26.0	7.45	2.00	24.7
Tobacco factories:									
Men	1.16	31.1	1.59	42.6	1.57	42.1	12.68	3.40	60.4
Women	.72	19.3	.87	23.3	.92	24.7	7.06	1.89	92.6
Margarine factories: Men	1.38	37.0	1.56	41.8	1.44	38.6	12.43	3.33	1.6
Canneries:									
Men	1.08	28.9	1.36	36.4	1.14	30.6	9.23	2.47	13.6
Women	.60	16.1	.94	25.2	.76	20.4	5.94	1.59	44.1
Leather, rubber, etc.									
Shoe factories:									
Men	1.09	29.2	1.29	34.6	1.20	32.2	9.05	2.43	57.8
Women	.64	17.2	.81	21.7	.75	20.1	5.61	1.50	60.6
Minors	.41	11.0	.56	15.0	.48	12.9	3.55	9.51	39.1
Rubber-goods factories:									
Men	1.10	29.5	1.32	35.4	1.20	32.2	10.31	2.76	32.8
Women	.74	19.8	.74	19.8	.75	20.1	5.89	1.58	81.8

[1] According to locality; minimum rates.
[2] 3 to 9 ore (0.8 cent to 2.4 cents) per hour above the time rates.

TABLE 2.—AVERAGE EARNINGS IN SPECIFIED INDUSTRIES IN GOTEBORG DISTRICT OF SWEDEN IN 1929—Continued

Industry, and class of worker	Rate per hour				Average earnings (including overtime, payments in kind, etc.)—				Per cent of work done on piece-work basis
	Time work		Piece work		Per hour		Per day		
	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	
Mining metal and machines									
Iron, steel, and copper plants:	*Kronor*	*Cents*	*Kronor*	*Cents*	*Kronor*	*Cents*	*Kronor*		
Men	.79	21.2	1.12	30.0	1.07	28.7	8.15	$2.18	71.7
Minors	.38	10.2	.63	16.9	.52	13.9	3.41	.91	51.4
Iron and steel semimanufactures:									
Men	.95	25.5	1.23	33.0	1.13	30.3	8.85	2.37	53.0
Women	.52	13.9	.70	18.8	.60	16.1	4.66	1.25	43.3
Minors	.40	10.7	.61	16.3	.50	13.4	3.80	1.02	46.9
Machine shops:									
Men	1.02	27.3	1.32	35.4	1.24	33.2	9.97	2.67	60.5
Women	.68	18.2	1.00	26.8	.88	23.6	6.48	1.74	57.6
Minors	.41	11.0	.67	18.0	.56	15.0	4.48	1.20	54.3
Shipbuilding:									
Men	1.03	27.6	1.30	34.8	1.27	34.0	9.62	2.58	79.5
Minors	.47	12.6	.66	17.7	.63	16.9	4.88	1.31	81.2
Textiles and clothing									
Cotton mills:									
Men	.86	23.0	.94	25.2	.92	24.7	7.56	2.03	30.8
Women	.54	14.5	.66	17.7	.64	17.2	5.08	1.36	70.7
Minors	.38	10.2	.51	13.7	.44	11.8	3.44	.92	42.8
Linen, hemp, and jute mills:									
Men	.81	21.7	.88	23.6	.88	23.6	7.45	2.00	23.3
Women	.49	13.1	.64	17.2	.62	16.6	5.14	1.38	79.2
Minors	.36	9.6	.52	13.9	.41	11.0	3.42	.92	33.5
Wool spinning and weaving mills:									
Men	.88	23.6	.97	26.0	.94	25.2	7.76	2.08	31.4
Women	.53	14.2	.65	17.4	.62	16.6	5.03	1.35	59.6
Minors	.37	9.9	.49	13.1	.40	10.7	3.25	.87	27.2
Knit-goods plants:									
Men	.87	23.3	1.02	27.3	.96	25.7	7.95	2.13	39.3
Women	.61	16.3	.72	19.3	.70	18.8	5.44	1.46	73.5
Minors	.40	10.7	.52	13.9	.47	12.6	3.56	.95	55.7
Clothing factories:									
Men	1.42	38.1	1.37	36.7	1.40	37.5	11.34	3.04	46.6
Women	.76	20.4	.79	21.2	.79	21.2	6.22	1.67	67.8
Minors	.40	10.7	.51	13.7	.43	11.5	3.28	.88	43.4
Wood and wood products									
Saw and planing mills:									
Men	.82	22.0	1.01	27.1	1.04	27.9	8.25	2.21	77.5
Minors	.46	12.3	.61	16.3	.56	15.0	4.26	1.14	61.0
Joinery and furniture factories:									
Men	.93	24.9	1.16	31.1	1.06	28.4	8.44	2.26	46.6
Minors	.38	10.2	.57	15.3	.43	11.5	3.20	.86	24.1
Wood-pulp mills:									
Men	.97	26.0	1.16	31.1	1.17	31.4	9.64	2.58	71.3
Minors	.46	12.3	.76	20.4	.58	15.5	4.63	1.24	36.0
Paper mills:									
Light-weight paper—									
Men	.93	24.9	1.06	28.4	1.07	28.7	8.88	2.38	74.6
Women	.54	14.5	.67	18.0	.66	17.7	5.21	1.40	74.4
Minors	.40	10.7	.56	15.0	.50	13.4	3.86	1.03	60.9
Heavy paper and cardboard—									
Men	.90	24.1	1.13	30.3	1.07	28.7	8.91	2.39	50.5
Women	.58	15.5	.70	18.8	.68	18.2	5.12	1.37	77.4
Minors	.41	11.0	.56	15.0	.47	12.6	3.66	.98	36.2

Wages in Specified Occupations and Industries

Metal industry.—The following table shows the average actual earnings in certain occupations in the metal industry in Goteborg in 1930. It may be said that, in general, the wage level in this industry in Goteborg is about 10 per cent above that in other important industrial localities in western Sweden.

TABLE 3.—ACTUAL EARNINGS OF WORKERS IN SPECIFIED OCCUPATIONS IN MACHINE SHOPS AND SHIPYARDS IN GOTEBORG, 1930

[Conversions into United States currency on basis of krona=26.8 cents]

Class of work and establishment	Actual earnings per hour					
	Time work				Piece work	
	Average		Minimum-Maximum			
	Swedish currency	United States currency	Swedish currency	United States currency	Swedish currency	United States currency
Machine-shop employees:	*Kronor*	*Cents*	*Kronor*	*Cents*	*Kronor*	*Cents*
Skilled workers	0.87	23.3	0.73–1.50	19.6–40.2	1.38	37.0
Tool hands	.92	24.7	.74– .95	19.8–25.5	1.44	38.6
Common laborers	.79	21.2	.66–1.37	17.7–36.7	1.26	33.8
Women—						
Over 20 years	.53	14.2	.50– .70	13.4–18.8	.97	26.0
17–20 years	.37	9.9	.35– .38	9.4–10.2	.88	23.6
Boys, 17 years	.43	11.5	.38– .54	10.2–14.5	.68	18.2
Shipyard employees:						
Skilled workers	.90	24.1	.73–1.35	19.6–36.2	1.49	39.9
Tool workers	1.07	28.7	.87–1.12	23.3–30.0	1.48	39.7
Filers, assemblers	.88	23.6	.73–1.00	19.6–26.8	1.47	39.4
Riveters, tinsmiths	.87	23.3	.73– .94	19.6–25.2	1.56	41.8
Woodworkers	.91	24.4	.86– .93	23.0–24.9	1.52	40.7

Clothing industry.—The wages in certain occupations in specified branches of the clothing industry are shown in the table following.

TABLE 4.—WAGES IN THE CLOTHING INDUSTRY IN THE GOTEBORG DISTRICT OF SWEDEN

[Conversions into United States currency on basis of krona=26.8 cents]

Industry and occupation	Wages per hour [1]		Industry and occupation	Wages per week	
	Swedish currency	United States currency		Swedish currency	United States currency
Men's ready-made suits:	*Kronor*	*Cents*	Ready-made clothing (plants operated by retail establishments):	*Kronor*	
Shapers and pressers, male, after 3 years	1.53	41.0	Shapers and pressers, male	73.25	$19.63
Pressers, male, after 2½ years	1.31	35.1	Assistants, male	66.60	17.85
Assistant pressers, male	1.16	31.1	Women—		
Shapers, female	.98	26.3	Entrance rate	24.06	6.45
Seamstresses, after 2½ years	.80	21.4	After 6 months	29.95	8.03
Caps:			After 1 year	33.30	8.92
Cap makers, male	1.42	38.1	After 1½ years	37.35	10.01
Cap makers, female	.80	21.4	After 2 years	40.70	10.91
Men's shirts, women's underwear:			After 3 years	43.30	11.60
Seamstresses—					
Entrance rate	.32	8.6			
After 3 months	.40	10.7			
After 6 months	.48	12.9			
After 1 year	.56	15.0			
After 1½ years	.64	17.2			
After 2 years	[2] .72	[2] 19.3			

[1] Rate per week=hourly rate multiplied by 48, minus 5 per cent.
[2] Maximum rate, payable only to women 18 years of age or over.

Textile industry.—Below are given examples of piecework earnings in a cotton-spinning mill in western Sweden:

	Per week
Mixing of cotton, 157.8 bales @ 27.6 öre per bale	43.60 kronor ($11.69)
Combing (3-story machines):	
Shift work	54.12 kronor ($14.50)
Ordinary work	49.50 kronor ($13.27)
Carding (3-story machines)	[3] 39.46–43.85 kronor ($10.58–$11.75)
Slubbing:	
Males (heavy slubber), 53.0 to 57.7 hanks @ 57.6 öre per hank, minus 40 per cent	31.75 kronor ($8.51)
Females—	
46.2 to 52.4 hanks @ 64.8 öre per hank	29.93–33.95 kronor ($8.02–$9.10)
54.6 hanks @ 72.0 öre per hank	39.31 kronor ($10.54)
77.0 hanks @ 41.4 öre per hank	31.88 kronor ($8.54)
Moistening of yarn	43.77 kronor ($11.73)

The cost per piece of certain items, furnished by a weaving mill, is shown in the following table. One worker handles 6 ordinary looms or 12 automatic looms.

TABLE 5.—COST OF WEAVING SPECIFIED KINDS OF CLOTH IN GOTEBORG, SWEDEN

[Conversions into United States currency on basis of krona=26.8 cents]

Kind of cloth	Width (in centimeters)	Length (in meters)	Cost per piece			
			Ordinary looms		Automatic looms	
			Swedish currency	United States currency	Swedish currency	United States currency
			Kronor		*Kronor*	
Poplin	89	60	3.75	$1.01	3.10	$0.83
Madapolam	80	38	3.40	.91	2.75	.74
Hollands	84	38	3.75	1.01	3.10	.83
Boy-scout cloth	67	38	2.65	.71	2.15	.58
Blue twills	70	38	3.75	1.01	3.10	.83
Blue twill, 1290 B	90	38	2.65	.71	2.15	.58
Blue twill, 560	62	38	1.90	.51	1.55	.42

Forestry.—The forest area of this district is over 65 per cent of the total, and 11.2 per cent of the forest-bearing area of the whole of Sweden. Lumber, wood goods, wood pulp, and paper are among the principal exports of Sweden and are manufactured by numerous and important enterprises in the western part of this country.

The most important among the workers engaged in cutting and transporting timber are the drivers (*körare*). Other workers, especially fallers (*huggare*) are to be regarded as assistants to the drivers and are paid by them.

The length of a day's work in the northern part of this district, where forestry is a major activity, has been agreed upon between associations of employers and employees, as follows: 7 hours during January, 7½ hours in February, 8½ hours in March, 9 hours from April to September, 8 hours in October, and 7 hours in November and December.

The most recent information concerning wages paid in the lumbering industry in western Sweden was published last March by the Royal Social Board and is given below. The figures for the first group shown have reference to the main body of forest workers, who have other

[3] Plus 3 hours' cleaning work at 80 öre per hour.

occupations during the greater part of the year. A smaller but not inconsiderable group consists of permanent forest workers and "forest tenants" with long-time contracts.

Almost all of the work is done on a piecework basis.

TABLE 6.—AVERAGE EARNINGS PER DAY OF FORESTRY WORKERS IN WESTERN SWEDEN, 1930-31

[Conversions into United States currency on basis of krona=26.8 cents]

District and class of worker	Average earnings per day of—			
	Drivers (horse and man)		Fallers	
	Swedish currency	United States currency	Swedish currency	United States currency
Temporary workers:	*Kronor*		*Kronor*	
Smaland district	7.08	$1.90	4.13	$1.11
Western district	7.51	2.01	4.10	1.10
Bergslags district	8.08	2.17	4.56	1.22
Permanent workers:				
Smaland district	6.86	1.84	3.93	1.05
Western district	7.17	1.92	3.85	1.03
Bergslags district	7.56	2.03	4.36	1.17

According to the present collective agreement between forest operators and floating associations, on the one hand, and the organization of forest workers in the northern part of this district, on the other, wages per hour and day for cutting, hauling, and floating are as follows:

	Per day
For forest workers:	
Drivers (horse and man)	9.44 kronor ($2.53)
Fallers and others	4.72 kronor ($1.26)
	Per hour
For floating:	
In well situated streams	0.70 krona ($0.19)
In other streams	0.75 krona ($0.20)
At sorting points	0.77 krona ($0.21)

According to the wage statistics of the Royal Social Board for 1929, which apply to the whole of Sweden, men engaged in floating received on an average 83 öre (22.2 cents) per hour for time work, 1.23 kronor (32.9 cents) per hour for piece work, and a general average of 1.09 kronor (29.2 cents) per hour and 9.67 kronor ($2.59) per day when overtime, payments in kind, etc., are included. Of the work 59.6 per cent was done at piece rates.

Paper industry.—According to the managers of a local paper factory, comparative actual wage schedules for different classes of workers may best be obtained by using as a basis the minimum wages fixed by the national agreement of June, 1930. These wages are actually paid to certain beginners and other employees, but the greater part of the work is done on a piece basis, with guaranteed earnings of from 20 to 25 per cent above these minimum rates for indoor workers and 30 per cent for outdoor workers. Machine repairers are paid by the hour and receive from 1.10 to 1.30 kronor (29.5 to 34.8 cents) per hour. There are no supplementary payments of any kind.

The minimum wages fixed by the agreement are given below. The mills are grouped into five classes, of which the first includes Goteborg, and the other classes various mills in different parts of the district.

TABLE 7.—MINIMUM RATES ESTABLISHED BY AGREEMENT IN THE PAPER INDUSTRY OF THE GOTEBORG DISTRICT, 1930

[Conversions into United States currency on basis of öre=0.268 cent]

Class of worker	Wages per hour									
	Class 1 mills		Class 2 mills		Class 3 mills		Class 4 mills		Class 5 mills	
	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency	Swedish currency	U. S. currency
	Öre	*Cents*	*Öre*	*Cents*	*Öre*	*Cents*	*Öre*	*Cents*	*Öre*	*Cents*
Barkers, sieve men, etc	84	22.5	81	21.7	77	20.6	72	19.3	67	18.0
Rollers, bleachers, etc	86	23.0	83	22.2	79	21.2	74	19.8	69	18.5
Machine operators (maximum rate)	103	27.6	99	26.5	95	25.5	89	23.9	82	22.0
Common workers	82	22.0	79	21.2	75	20.1	71	19.0	66	17.7
Woman workers	60	16.1	58	15.5	55	14.7	52	13.9	48	12.9

Wages in Agriculture

Province of Scania

ON JULY 30, 1925, a national agreement was signed by employers and workers in Swedish agriculture, which is still valid, having been automatically prolonged each year since its original expiration in 1928.

Since the Province of Scania is the most important agricultural district in southern Sweden, the provisions of a collective agreement in force in that territory since October 24, 1925, and based on the national agreement, are given below.

For all agricultural workers, except herdsmen and milkers, the ordinary daily number of working hours is 8 hours in January and February, 10 hours from March to September, 9 hours in October and November, and 8 hours in December.

The following table shows the annual wages of agricultural workers in this Province.

TABLE 8.—WAGES OF MALE AGRICULTURAL WORKERS IN PROVINCE OF SCANIA, 1930-31

[Conversions into United States currency on basis of krona=26.8 cents]

Class of worker	Annual earnings		
	Allowance in kind	Cash wage	
		Swedish currency	United States currency
		Kronor	
Drivers employed by year	Full allowance [1]	630.00	$168.84
Farm laborers not driving horses	do	615.00	164.82
Herdsmen, liverymen, head manservants, and drivers (not doing horseshoeing).	do	700.00	187.60
Drivers (not in personal service of employer), liverymen doing horseshoeing, senior herdsmen, foremen, mechanics, woodworkers, and smiths.	do	775.00	207.70
Servants living in employer's house	Board and lodging	575.00	154.10
Day laborers	None	[2] .45	[2] .12
Day laborers	House, fuel, garden plot.	[2] .40	[2] .11

[1] Consists of 700 kilograms of rye; 100 kilograms of wheat; 600 kilograms of barley; 1,460 liters of unskimmed milk delivered at the rate of 4 liters per day; housing, consisting of 2 rooms and kitchen in sound and good condition and well heated; and about 0.07 acre of land for garden; about 1,200 square yards of land for potatoes; 24 hectoliters of coal, 4 cubic meters of birch or beech wood, and 1 cartload of brushwood, unless otherwise specified; and free medical treatment and transportation.

[2] Per hour.

While the foregoing rates are applicable with regard to male agricultural laborers, the minimum wages for able-bodied and skillful female workers are: (*a*) For milking, 1.2 öre (0.3 cent) per liter; (*b*) for all other kinds of work 28 öre (7.5 cents) per hour. Self-supporting female workers are in addition entitled to free housing, fuel, milk, and land for cultivation of potatoes.

Overtime work (including work on Sundays and holidays) is paid at the rate of 30 öre (8 cents) for each half hour or fraction thereof, while night work is paid at the rate of 40 öre (10.7 cents) for each half hour or fraction thereof.

Goteborg District (Western Sweden)

The many different classes of farm workers in this district belong to two principal groups—farm servants and day laborers.

Farm servants receive approximately equal amounts in money wages and payments in kind, the latter either in the form of board and lodging, or, as is usual in the case of married farm servants, lodging, fuel, and certain fixed amounts of various necessities.[4]

Their wages have remained practically stationary since 1925, at a level 68 per cent higher than in 1913 for men, and 87 per cent higher for women. With the decline in commodity prices, the money value of their total wages has decreased.

The married farm servants (*statare*) belong to two main classes—drivers (*körkarlar*), the most numerous, least qualified, and lowest-paid group, and farmyard helpers (*kreatursskötare*), who have longer hours, more responsible work, higher pay, and in certain instances receive percentages of milk and other farm products.

Among the day laborers the temporary male workers who do not receive board or lodging are most numerous. There is a tendency on the part of farmers to reduce as far as possible the number of permanent workers employed, and to take on temporary help during the busy season of the year. The wages paid these workers are of especial interest because of their tendency to approach industrial levels, in the northern part of this district forestry wages, and brickyard wages in the southern parts.

Free lodging is unusual for this class of workers. The difference between wages with and without board (as shown in Table 9) indicates the cost per day and person of food on farms. Winter wages are, for obvious reasons, lower than summer wages.

The difference between temporary and permanent day laborers is one of degree only. Many workers employed for four or five months at a time are classed as permanent. Such workers are to be found chiefly on the farms owned by the large combined forestry, sawmill, and pulp and paper or iron manufacturing concerns. They are not so common in the agricultural regions proper, where special long-term agreements are made with small farmers, tenants, and adult sons and daughters of these classes and of farm servants. The permanent female employees are chiefly relatives of persons attached to the farms, and are employed steadily under oral agreements.

[4] The amounts of the commodities entering into the payment in kind and their value in 1929 were as follows: 1,180 liters of milk, value 14 öre (3.8 cents); 193 kilograms of wheat, value 18 öre (4.8 cents); 598 kilograms of rye, value 16 öre (4.3 cents); 19 kilograms of barley, value 15 öre (4.0 cents); 324 kilograms of oats and mixed grain, value 13 öre (3.5 cents); fuel valued at 11 kronor ($2.95); lodging and garden space valued at 129 kronor ($34.57); and space for growing potatoes valued at 40 kronor ($10.72). The lodging of this class of servants usually consists of either two rooms and kitchen or one room and kitchen with a total floor area of about 35 square meters, not including wardrobes and pantry. There are, however, many substandard houses and barracks, and the problem of improving conditions in this respect is a current political question.

TABLE 9.—WAGES OF AGRICULTURAL WORKERS IN WESTERN SWEDEN, 1929 AND 1930

[Conversions into United States currency on basis of krona=26.8 cents]

Class of worker	Average annual wages			
	1929		1930	
	Swedish currency	United States currency	Swedish currency	United States currency
Unmarried farm servants:				
Male—	*Kronor*		*Kronor*	
Annual money wages	550.00	$147.40	560.00	$150.08
Board and lodging	544.00	145.79	----------	----------
Female—				
Annual money wages	414.00	110.95	422.00	113.10
Board and lodging	450.00	120.60	----------	----------
Married farm servants:				
Drivers—				
Money wages	641.00	171.79	647.00	173.40
Earnings in kind	653.00	175.00	----------	----------
Farmyard helpers—				
Money wages	744.00	199.39	756.00	202.61
Earnings in kind	657.00	176.08	----------	----------
	Average daily wages			
Temporary day laborers:				
Without board—				
Men—				
Summer	4.56	1.22	4.51	1.21
Winter	3.56	.95	3.53	.95
Women—				
Summer	3.31	.89	3.27	.88
Winter	2.53	.68	2.62	.70
With board—				
Men—				
Summer	3.12	.84	3.16	.85
Winter	2.34	.63	2.42	.65
Women—				
Summer	2.27	.61	2.28	.61
Winter	1.69	.45	1.73	.46
Permanent day laborers:				
Without board—				
Men—				
Summer	4.08	1.09	----------	----------
Winter	3.21	.86	----------	----------
Women—				
Summer	2.85	.76	----------	----------
Winter	3.32	.89	----------	----------
With board—				
Men—				
Summer	2.82	.76	----------	----------
Winter	2.09	.56	----------	----------
Women—				
Summer	2.02	.54	----------	----------
Winter	1.52	.41	----------	----------

The average number of working hours per day on farms in this district, according to the latest figures (1929), are shown in the following table:

TABLE 10.—NET WORKING-DAY OF AGRICULTURAL WORKERS IN WESTERN SWEDEN

Class of worker	Net working hours per day			
	Week days, except Saturdays		Saturdays	
	Summer	Winter	Summer	Winter
Drivers	10.6	8.8	10.2	8.2
Farmyard helpers	10.4	10.2	10.4	10.2
Other workers	9.7	7.8	9.5	7.5

The length of the rest periods is almost exactly two hours per day. In western Sweden an old schedule with many short rest periods is the rule.

Only a very small proportion of the farm workers in western Sweden are organized in labor unions.

TREND OF EMPLOYMENT

Summary for February, 1932

EMPLOYMENT decreased 0.3 per cent in February, 1932, as compared with January, 1932, while earnings increased 0.1 per cent.

The industrial groups surveyed, the number of establishments reporting in each group, the number of employees covered, and the earnings for one week, for both January and February, 1932, together with the per cents of change in February, are shown in the following summary:

SUMMARY OF EMPLOYMENT AND EARNINGS, JANUARY AND FEBRUARY, 1932

Industrial group	Establishments	Employment		Per cent of change	Earnings in 1 week		Per cent of change
		January, 1932	February, 1923		January, 1932	February, 1932	
1. Manufacturing	**16,891**	**2,800,799**	**2,833,890**	[1] **+1.2**	**$55,510,444**	**$56,719,548**	[1] **+2.1**
2. Coal mining	**1,402**	**301,040**	**285,871**	**−5.0**	**5,432,029**	**5,271,810**	**−2.9**
Anthracite	160	104,183	97,327	−6.6	2,441,555	2,277,449	−6.7
Bituminous	1,242	196,857	188,544	−4.2	2,990,474	2,994,361	+0.1
3. Metalliferous mining	**249**	**30,306**	**28,805**	**−4.9**	**577,981**	**541,009**	**−6.4**
4. Quarrying and nonmetallic mining	**582**	**21,110**	**20,449**	**−3.1**	**351,250**	**343,574**	**−2.2**
5. Crude petroleum producing	**259**	**15,201**	**15,044**	**−1.0**	**447,163**	**451,087**	**+0.9**
6. Public utilities	**12,086**	**660,529**	**650,687**	**−1.5**	**19,786,145**	**19,597,140**	**−1.0**
Telephone and telegraph	8,211	293,852	290,428	−1.2	8,516,373	8,558,269	+0.5
Power, light, and water	3,378	231,587	226,063	−2.4	7,215,212	7,018,910	−2.7
Electric railroad operation and maintenance, exclusive of car shops	497	135,090	134,196	−0.7	4,054,560	4,019,961	−0.9
7. Trade	**15,206**	**413,460**	**397,382**	**−3.9**	**9,668,022**	**9,198,155**	**−4.9**
Wholesale	2,590	72,535	71,698	−1.2	2,094,541	2,047,695	−2.2
Retail	12,616	340,925	325,684	−4.5	7,573,481	7,150,460	−5.6
8. Hotels	**2,745**	**141,678**	**143,491**	**+1.3**	[2] **2,183,303**	[2] **2,185,826**	**+0.1**
9. Canning and preserving	**764**	**23,735**	**25,134**	**+5.9**	**375,575**	**386,636**	**+2.9**
10. Laundries	**909**	**59,866**	**58,619**	**−2.1**	**1,046,069**	**1,003,926**	**−4.0**
11. Dyeing and cleaning	**364**	**10,990**	**10,769**	**−2.0**	**222,815**	**210,564**	**−5.5**
12. Building construction	**9,295**	**79,433**	**72,610**	**−8.6**	**2,092,511**	**1,849,778**	**−11.6**
Total	**60,252**	**4,558,147**	**4,542,751**	**−0.3**	**97,693,307**	**97,759,053**	**+0.1**

[1] Weighted per cent of change for the combined 89 manufacturing industries, repeated from Table 1, manufacturing industries; the remaining per cents of change, including total, are unweighted.

[2] The amount of pay roll given represents cash payments only; the additional value of board, room, and tips can not be computed.

Data are not yet available showing railroad employment for February, 1932. Reports of the Interstate Commerce Commission for Class I railroads show that the number of employees (exclusive of executives and officials) decreased from 1,119,396 on December 15, 1931, to 1,094,296 on January 15, 1932, or 2.2 per cent; the amount of pay roll decreased from $147,562,367 in December to $142,556,705 in January, or 3.4 per cent.

PER CAPITA WEEKLY EARNINGS FEBRUARY, 1932, AND COMPARISON WITH JANUARY, 1932, AND FEBRUARY, 1931

Industrial group	Per capita weekly earnings in February, 1932	Per cent of change February, 1932, compared with	
		January, 1932	February, 1931
1. Manufacturing (89 industries)	$20.01	+0.8	−16.4
2. Coal mining:			
Anthracite	23.40	−.2	−29.3
Bituminous	15.88	+4.3	−18.6
3. Metalliferous mining	18.78	−1.5	−29.1
4. Quarrying and nonmetallic mining	16.80	+1.0	−23.6
5. Crude petroleum producing	29.98	+1.8	−9.8
6. Public utilities:			
Telephone and telegraph	29.47	+1.6	+2.8
Power, light, and water	31.05	−.4	−3.2
Electric railroads	29.96	−.2	−7.3
7. Trade:			
Wholesale	28.56	−1.1	−10.6
Retail	21.96	−1.0	−7.9
8. Hotels (cash payments only) [1]	15.23	−1.1	−10.3
9. Canning and preserving	15.38	−3.1	−12.4
10. Laundries	17.13	−2.1	−7.2
11. Dyeing and cleaning	19.55	−3.7	−9.9
12. Building construction	25.48	−3.3	[2]
Total	[3] 21.46	[3] +.5	[3] −13.3

[1] The additional value of board, room, and tips can not be computed.
[2] Data not available.
[3] Does not include building construction.

Per capita earnings for February, 1932, given in the preceding table, must not be confused with full-time weekly rates of wages; they are actual per capita weekly earnings, computed by dividing the total amount of pay roll for the week by the total number of employees (part-time as well as full-time workers). Comparisons are made with per capita earnings in January, 1932, and February, 1931.

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Employment in Selected Manufacturing Industries in February, 1932

Comparison of Employment and Pay Rolls in February, 1932, with January, 1932, and February, 1931

EMPLOYMENT in *manufacturing* industries increased 1.2 per cent and earnings increased 2.1 per cent in February, 1932, as compared with January, 1932. During the year ending with February, 1932, the number of persons employed decreased 12.9 per cent, while earnings fell 27.2 per cent.

The per cents of change in employment and earnings in February, 1932, as compared with January, 1932, are based on returns made by 16,891 establishments in 89 of the principal manufacturing industries in the United States, having in February 2,833,890 employees whose earnings in one week were $56,719,548.

Recently the bureau obtained for the year 1926 data as to employment and pay rolls from 31 industries which had not been included in the index numbers prior to January, 1932. Beginning with January, 1932, six industries which had been included with other industries have been presented separately. Two small industries were discontinued at that data. The 1931 index numbers have been recomputed for all manufacturing and for the industry groups affected by the changes.

This revision shows an average index number for employment of 72.2 for the year 1931 as compared with the old index number, 70.9. The revised average index number of earnings for 1931 is 61.5 as compared with the old index, 60.2. This difference in the index is due to the fact that there has been, since 1926, less shrinkage in the industries added than in those previously covered. The old and new general index numbers for 1931 are shown in Table 2.

The index of employment in February, 1932, is 65.6 as compared with 64.8 in January, 1932, 66.7 in December, 1931, and 75.3 in February, 1931. The pay-roll index in February, 1932, is 49.6, as compared with 48.6 in January, 1932, 52.2 in December, 1931, and 68.1 in February, 1931. The 12-month average for 1926 equals 100.

In Table 1, which follows, are shown the number of identical establishments reporting in both January and February, 1932, in the 89 manufacturing industries, together with the total number of employees on the pay rolls of these establishments during the pay period ending nearest February 15, and the amount of their weekly earnings in February, the per cents of change over the month and the year intervals, and the index numbers of employment and earnings in February, 1932.

The monthly per cents of change in employment and earnings for each of the 89 separate industries are computed by direct comparison of the total number of employees for the former and of the amount of weekly earnings for the latter in identical establishments for the two months considered. The per cents of change over the month interval in the several groups and in the total of the 89 manufacturing industries are computed from the index numbers of these groups, which are obtained by weighting the index numbers of the several industries in the groups by the number of employees or wages paid in the industries. The per cents of change over the year interval in the separate industries in the groups and in the totals are computed from the index numbers of employment and earnings.

TABLE 1.—COMPARISON OF EMPLOYMENT AND EARNINGS IN MANUFACTURING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, AND FEBRUARY, 1931

Industry	Establishments reporting in both mos.	Employment			Earnings			Index numbers, February, 1932 (average 1926=100)	
		Number on pay rolls, February, 1932	Per cent of change		Amount of earnings (1 week) February, 1932	Per cent of change		Employment	Earnings
			January to February, 1932	February, 1931, to February, 1932		January to February, 1932	February, 1931, to February, 1932		
Food and kindred products	**2,733**	**255,517**	**−2.4**	**−7.7**	**$5,175,352**	**−3.2**	**−17.1**	**81.1**	**72.8**
Slaughtering and meat packing	217	85,201	−1.9	−4.5	1,938,817	−4.5	−17.8	89.8	79.2
Confectionery	331	32,721	−1.6	−11.2	529,882	−4.9	−20.5	74.5	62.9
Ice cream	325	10,303	+0.2	−8.4	313,805	+(1)	−17.6	68.4	62.8
Flour	436	15,303	−1.0	−5.3	344,997	−1.9	−17.9	84.3	72.2
Baking	844	58,818	−1.3	−8.2	1,434,338	−1.8	−14.6	83.2	76.4
Sugar refining, cane	14	7,826	−4.3	−5.3	204,949	−1.1	−18.1	75.7	67.4
Beet sugar	38	1,725	−49.8	−22.4	55,301	−28.0	−23.7	25.6	30.5
Beverage	294	9,169	−1.7	−10.5	244,878	−1.5	−19.9	72.1	60.6
Butter	234	4,451	−7.9	−13.3	108,385	−3.7	−19.4	84.2	79.6
Textiles and their products	**2,846**	**590,501**	**+4.0**	**−5.2**	**9,089,725**	**+6.7**	**−20.8**	**75.1**	**57.6**
Cotton goods	546	194,193	+3.8	+3.1	2,403,208	+5.8	−11.1	75.6	58.5
Hosiery and knit goods	420	100,867	+1.9	+2.9	1,495,256	+7.1	−11.9	81.6	63.4
Silk goods	268	50,050	−0.4	−17.8	741,893	−3.1	−34.7	69.3	51.3
Woolen and worsted goods	202	52,819	+9.7	−1.3	997,226	+11.3	−11.8	73.8	63.4
Carpets and rugs	32	14,824	−1.7	−13.8	255,262	−8.9	−35.4	61.8	40.6
Dyeing and finishing textiles	146	37,712	+3.8	−9.7	835,872	+7.7	−21.6	86.2	75.4
Clothing, men's	347	59,055	+7.9	−5.0	963,561	+10.3	−24.0	71.8	47.8
Shirts and collars	113	14,584	+1.3	−15.0	162,761	+4.6	−29.1	60.8	41.9
Clothing, women's	399	27,843	+4.1	−20.5	566,889	+10.7	−35.1	74.4	55.4
Millinery	125	10,348	+6.5	−0.5	212,876	+8.2	−9.7	82.0	65.9
Corsets and allied garments	31	5,809	+4.2	+4.3	96,803	+10.9	−7.8	105.6	95.5
Cotton small wares	103	9,833	+3.1	−12.0	172,256	+4.4	−23.5	87.5	75.1
Hats, fur-felt	36	5,236	−3.0	−24.5	91,625	−5.1	−39.6	67.0	40.2
Men's furnishings	78	7,328	+3.1	−17.8	94,237	+3.7	−35.7	64.3	48.5
Iron and steel and their products, not including machinery	**1,315**	**340,627**	**+0.3**	**−15.8**	**5,869,492**	**+2.2**	**−40.7**	**62.3**	**36.8**
Iron and steel	209	205,457	+0.5	−16.4	3,380,900	+4.2	−47.1	62.8	34.3
Cast-iron pipe	41	7,891	−7.5	−25.9	126,000	−8.8	−45.1	42.1	27.8
Structural-iron work	181	18,869	−5.4	−26.6	382,102	−9.3	−43.3	55.6	36.6
Hardware	104	24,947	−1.4	−15.5	413,854	−4.7	−33.5	58.5	36.0
Steam fittings and steam and hot-water heating apparatus	113	21,443	+2.0	−25.0	403,026	+5.8	−43.1	45.0	28.4
Stoves	139	13,809	+13.9	−15.7	254,660	+16.3	−34.8	50.6	30.7
Bolts, nuts, washers, and rivets	61	7,763	−0.9	−13.9	137,856	−2.3	−32.1	70.8	46.6
Cutlery and edge tools	111	9,831	+5.1	−3.8	202,809	+7.7	−13.9	74.3	56.4
Forgings, iron and steel	52	5,595	−0.5	−2.3	102,150	−0.2	−22.9	66.9	41.7
Plumbers' supplies	68	5,065	−2.3	−16.3	81,066	−1.3	−34.8	68.9	42.7
Tin cans and other tinware	53	6,987	−2.1	−17.9	140,885	−5.5	−22.2	72.8	45.3
Tools, not including edge tools	123	8,399	−0.9	−12.9	149,867	+2.6	−22.8	76.8	50.9
Wirework	60	4,571	+1.7	+14.8	94,317	+10.6	+4.2	102.3	85.2
Lumber and allied products	**1,435**	**128,508**	**−1.2**	**−23.3**	**1,773,937**	**−2.7**	**−43.2**	**41.7**	**25.6**
Lumber, sawmills	600	59,494	−3.8	−28.9	730,841	−3.2	−49.4	36.0	20.4
Lumber, millwork	361	18,885	−4.4	−24.5	299,608	−8.5	−41.6	41.4	27.5
Furniture	453	49,145	+5.3	−11.8	728,095	+1.0	−35.4	56.2	33.7
Turpentine and rosin	21	984	−1.7	−19.4	15,393	+4.1	−34.4	46.8	41.6
Leather and its manufacture	**463**	**129,948**	**+5.6**	**−0.4**	**2,311,433**	**+15.1**	**−10.8**	**79.1**	**59.3**
Leather	155	23,997	+1.9	−7.6	491,158	+6.1	−18.3	71.7	58.8
Boots and shoes	308	105,951	+6.5	+1.3	1,820,275	+17.9	−8.5	80.9	59.4
Paper and printing	**1,828**	**219,420**	**−1.7**	**−8.1**	**6,033,422**	**−2.4**	**−16.9**	**85.0**	**77.5**
Paper and pulp	405	78,717	+0.5	−5.7	1,658,490	+5.7	−21.4	77.7	61.2
Paper boxes	312	21,951	−1.6	−10.2	426,939	−0.8	−19.2	73.4	65.1
Printing, book and job	669	51,432	−4.0	−13.1	1,501,991	−6.5	−20.9	82.4	74.4
Printing, newspapers and periodicals	442	67,320	−1.4	−4.2	2,446,002	−2.7	−10.5	101.4	95.9

[1] Less than one-tenth of 1 per cent.

TABLE 1.—COMPARISON OF EMPLOYMENT AND EARNINGS IN MANUFACTURING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, AND FEBRUARY, 1931—Continued

Industry	Establishments reporting in both mos.	Employment			Earnings			Index numbers, February, 1932 (average 1926=100)	
		Number on pay rolls, February, 1932	Per cent of change		Amount of earnings (1 week) February, 1932	Per cent of change		Employment	Earnings
			January to February, 1932	February, 1931, to February, 1932		January to February, 1932	February, 1931, to February, 1932		
Chemicals and allied products	**952**	**137,805**	**+0.1**	**−11.6**	**$3,331,146**	**+0.7**	**−20.6**	**80.3**	**70.6**
Chemicals	120	21,219	−1.1	−11.8	557,515	−0.5	−19.2	88.9	70.7
Fertilizers	205	7,976	+10.5	−23.7	103,843	−0.4	−39.2	56.6	40.4
Petroleum refining	105	44,842	−1.2	−16.7	1,335,617	−1.0	−25.5	66.4	61.9
Cottonseed oil, cake, and meal	44	2,656	+5.9	−28.5	34,598	+1.0	−18.5	48.2	49.5
Druggists' preparations	29	6,745	−2.4	−8.8	143,685	−1.9	−17.7	78.8	81.2
Explosives	22	3,164	−2.9	−22.5	63,996	+4.6	−34.0	84.3	58.6
Paints and varnishes	340	15,237	+0.7	−9.8	368,215	+1.7	−21.5	73.9	64.3
Rayon	21	26,650	−0.5	+8.1	504,462	+6.2	−3.6	149.2	136.5
Soap	66	9,316	+0.7	−2.9	219,215	+2.1	−16.9	96.5	89.7
Stone, clay, and glass products	**1,335**	**91,057**	**+1.7**	**−23.7**	**1,714,953**	**+5.0**	**−39.8**	**47.9**	**33.6**
Cement	122	14,298	−2.0	−23.9	284,478	+0.6	−41.7	43.3	29.3
Brick, tile, and terra cotta	690	18,676	−5.0	−33.7	246,832	−7.1	−56.5	29.5	14.8
Pottery	110	15,240	+5.5	−13.1	276,004	+8.6	−26.3	69.1	48.2
Glass	191	37,389	+5.5	−9.6	777,602	+13.5	−22.9	63.4	51.9
Marble, granite, slate, etc.	222	5,454	+2.6	−39.9	130,037	+0.2	−52.7	53.6	39.3
Nonferrous metals, and their products	**573**	**84,202**	**+1.0**	**−15.2**	**1,643,516**	**+2.7**	**−32.1**	**61.4**	**45.6**
Stamped and enameled ware	86	13,502	+4.1	−9.8	249,721	+10.7	−28.2	65.6	48.1
Brass, bronze, and copper products	176	30,714	−0.1	−12.9	600,223	−0.2	−28.4	60.8	43.4
Aluminum manufactures	25	5,560	+0.9	−30.3	104,557	+1.4	−47.3	55.1	39.3
Clocks, clock movements, etc.	20	3,947	−2.4	−13.4	56,983	+0.5	−35.3	54.7	38.0
Gas and electric fixtures	47	4,942	−1.4	−18.3	111,848	−0.5	−27.3	76.4	58.9
Plated ware	50	7,761	+1.3	−18.5	165,109	+5.9	−30.9	65.1	46.6
Smelting and refining, copper, lead, and zinc	26	8,988	−0.2	−13.3	173,228	+1.7	−40.2	69.1	51.3
Jewelry	143	8,788	+5.1	−18.7	181,847	+3.9	−19.2	43.8	34.6
Tobacco manufactures	**236**	**57,499**	**+3.9**	**−13.6**	**750,798**	**+0.7**	**−17.9**	**74.0**	**56.9**
Chewing and smoking tobacco and snuff	29	9,522	+0.5	−1.5	138,561	−3.0	−7.9	92.4	81.1
Cigars and cigarettes	207	47,977	+4.5	−15.4	612,237	+1.5	−19.5	71.6	54.0
Transportation equipment	**419**	**307,481**	**+3.3**	**−8.6**	**7,607,110**	**+7.6**	**−16.9**	**64.8**	**49.8**
Automobiles	241	259,290	+3.5	−6.0	6,387,024	+9.1	−14.8	67.2	50.6
Aircraft	35	6,406	−1.6	−24.8	202,981	−2.4	−24.4	224.5	227.9
Cars, electric and steam railroad	33	4,899	+21.7	−34.5	91,050	+32.2	−45.2	21.3	13.7
Locomotives	15	3,610	+1.2	−37.8	87,505	+2.9	−36.7	21.1	17.9
Shipbuilding	95	33,276	−0.1	−10.3	838,550	−2.3	−19.1	90.0	77.8
Rubber products	**140**	**75,812**	(2)	**−4.9**	**1,624,329**	**+1.6**	**−15.5**	**69.6**	**52.2**
Rubber tires and inner tubes	37	45,425	+0.9	−3.4	1,075,639	+4.4	−15.6	65.8	51.4
Rubber boots and shoes	11	11,831	−5.5	−9.0	186,703	−8.4	−12.7	62.0	41.4
Rubber goods, other than boots, shoes, tires, and inner tubes	92	18,556	+1.8	−5.4	361,987	−0.3	−17.0	84.4	61.6
Machinery, not including transportation equipment	**1,700**	**344,935**	(2)	**−24.3**	**7,335,416**	**−0.2**	**−36.8**	**59.8**	**42.3**
Agricultural implements	71	8,912	+6.8	−45.4	166,728	+27.9	−47.0	41.4	35.3
Electrical machinery, apparatus and supplies	246	130,362	−1.5	−19.3	3,109,499	−2.4	−29.8	70.8	56.5
Engines, turbines, and water wheels	68	14,685	+17.6	−36.8	308,569	+13.4	−52.5	52.0	34.8

[2] No change.

TABLE 1.—COMPARISON OF EMPLOYMENT AND EARNINGS IN **MANUFACTURING** ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, AND FEBRUARY, 1931—Continued

Industry	Establishments reporting in both mos.	Employment			Earnings			Index numbers, February, 1932 (average 1926=100)	
		Number on pay rolls, February, 1932	Per cent of change		Amount of earnings (1 week) February, 1932	Per cent of change			
			January to February, 1932	February, 1931, to February, 1932		January to February, 1932	February, 1931, to February, 1932	Employment	Earnings
Machinery, not including transportation equipment—Continued.									
Cash registers and calculating machines	49	16,261	−0.4	−8.3	$378,282	−6.5	−24.5	77.3	55.7
Foundry and machine-shop products	1,026	121,236	−0.5	−25.2	2,282,877	+0.9	−40.7	54.7	34.9
Machine tools	145	15,168	−1.1	−35.2	336,861	−1.2	−40.3	47.3	34.4
Textile machinery and parts	35	9,115	+1.0	−11.4	191,770	−2.4	−18.1	68.7	55.6
Typewriters and supplies	17	10,942	−2.8	−19.2	186,377	+4.2	−31.3	72.1	48.3
Radio	43	18,254	−7.5	−24.1	374,453	−15.9	−27.7	72.0	61.4
Railroad repair shops	**916**	**100,578**	**+1.4**	**−22.9**	**2,458,919**	**−4.1**	**−37.4**	**52.2**	**42.6**
Electric railroad	445	24,428	−1.2	−12.1	686,370	−3.3	−19.0	72.4	65.2
Steam railroad	471	76,150	+1.6	−24.0	1,772,549	−3.8	−39.0	50.6	40.9
Total—89 industries	**16,891**	**2,833,890**	**+1.2**	**−12.9**	**56,719,548**	**+2.1**	**−27.2**	**65.6**	**49.6**

Per Capita Earnings in Manufacturing Industries

ACTUAL per capita weekly earnings in February, 1932, for each of the 89 manufacturing industries surveyed by the Bureau of Labor Statistics, together with per cents of change in February, 1932, as compared with January, 1932, and February, 1931, are shown in the following table.

Per capita earnings in February, 1932, for the combined 89 manufacturing industries were 0.8 per cent higher than for January, 1932, and 16.4 per cent lower than for February, 1931.

The average per capita weekly earnings in February, 1932, for the combined 89 manufacturing industries were $20.01.

Per capita earnings given in the following table must not be confused with full-time weekly rates of wages. They are actual per capita weekly earnings, computed by dividing the total amount of pay roll for the week by the total number of employees (part-time workers as well as full-time workers).

TABLE 2.—PER CAPITA WEEKLY EARNINGS IN **MANUFACTURING** INDUSTRIES IN FEBRUARY, 1932, AND COMPARISON WITH JANUARY, 1932, AND FEBRUARY, 1931

Industry	Per capita weekly earnings in February, 1932	Per cent of change compared with—	
		January, 1932	February, 1931
Food and kindred products:			
Slaughtering and meat packing	$22.76	−2.6	−13.9
Confectionery	16.19	−3.4	−10.4
Ice cream	30.46	−.2	−10.0
Flour	22.54	−.9	−13.4
Baking	24.39	−.4	−7.1
Sugar refining, cane	26.19	+3.4	−13.3
Beet sugar	32.06	+43.4	−1.7
Beverages	26.71	+.1	−10.4
Butter	24.35	+4.6	−7.1
Textiles and their products:			
Cotton goods	12.38	+2.0	−13.8
Hosiery and knit goods	14.82	+5.0	−14.3
Silk goods	14.82	−2.8	−21.0
Woolen and worsted goods	18.88	+1.5	−10.9
Carpets and rugs	17.22	−7.3	−25.1
Dyeing and finishing textiles	22.16	+3.8	−13.3
Clothing, men's	16.32	+2.3	−19.9
Shirts and collars	11.16	+3.3	−16.6
Clothing, women's	20.36	+6.3	−18.4
Millinery	20.57	+1.6	−8.9
Corsets and allied garments	16.66	+6.5	−11.9
Cotton small wares	17.52	+1.2	−13.2
Hats, fur-felt	17.50	−2.2	−20.0
Men's furnishings	12.86	+.5	−21.6
Iron and steel and their products, not including machinery:			
Iron and steel	16.46	+3.7	−36.8
Cast-iron pipe	15.97	−1.4	−25.6
Structural-iron work	20.25	−4.2	−23.1
Hardware	16.59	−3.3	−21.6
Steam fittings and steam and hot-water heating apparatus	18.80	+3.8	−24.0
Stoves	18.44	+2.1	−22.8
Bolts, nuts, washers, and rivets	17.76	−1.4	−21.1
Cutlery and edge tools	20.63	+2.4	−10.5
Forgings, iron and steel	18.26	+.3	−21.0
Plumbers' supplies	16.01	+1.0	−27.0
Tin cans and other tinware	20.16	−3.5	−5.0
Tools, not including edge tools	17.84	+3.5	−11.4
Wirework	20.63	+8.7	−9.3
Lumber and allied products:			
Lumber, sawmills	12.28	+.6	−28.7
Lumber, millwork	15.86	−4.3	−22.9
Furniture	14.82	−4.1	−26.7
Turpentine and rosin	15.64	+5.9	−18.6
Leather and its manufactures:			
Leather	20.47	+4.1	−11.8
Boots and shoes	17.18	+10.8	−9.7
Paper and printing:			
Paper and pulp	21.07	+5.1	−16.6
Paper boxes	19.45	+.8	−10.1
Printing, book and job	29.20	−2.6	−8.9
Printing, newspapers and periodicals	36.33	−1.3	−6.6
Chemicals and allied products:			
Chemicals	26.27	+.5	−8.1
Fertilizers	13.02	−9.8	−20.4
Petroleum refining	29.78	+.1	−10.7
Cottonseed oil, cake, and meal	13.03	−4.6	+14.1
Druggists' preparations	21.30	+.5	−9.6
Explosives	20.23	+7.7	−15.0
Paints and varnishes	24.17	+.9	−13.0
Rayon	18.93	+6.7	−10.8
Soap	23.53	+1.3	−14.7
Stone, clay, and glass products:			
Cement	19.90	+2.6	−23.6
Brick, tile, and terra cotta	13.22	−2.2	−34.4
Pottery	18.11	+3.0	−15.0
Glass	20.80	+7.5	−14.6
Marble, granite, slate, etc	23.84	−2.3	−21.4
Nonferrous metals and their products:			
Stamped and enameled ware	18.50	+6.4	−20.2
Brass, bronze, and copper products	19.54	−.1	−18.1
Aluminum manufactures	18.81	+.5	−24.4
Clocks, clock movements, etc	14.44	+3.0	−25.0
Gas and electric fixtures	22.63	+.9	−11.1
Plated ware	21.27	+4.6	−15.3
Smelting and refining, copper, lead, and zinc	19.27	+1.8	−31.0
Jewelry	20.69	−1.1	−.5

TABLE 2.—PER CAPITA WEEKLY EARNINGS IN **MANUFACTURING** INDUSTRIES IN FEBRUARY, 1932, AND COMPARISON WITH JANUARY, 1932, AND FEBRUARY, 1931—Continued

Industry	Per capita weekly earnings in February, 1932	Per cent of change compared with—	
		January, 1932	February, 1931
Tobacco manufactures:			
Chewing and smoking tobacco and snuff	$14.55	−3.5	−6.5
Cigars and cigarettes	12.76	−2.9	−5.0
Transportation equipment:			
Automobiles	24.63	+5.5	−9.4
Aircraft	31.69	−.8	+.7
Cars, electric and steam railroad	18.59	+8.6	−16.4
Locomotives	24.24	+1.7	+1.7
Shipbuilding	25.20	−2.2	−10.0
Rubber products:			
Rubber tires and inner tubes	23.68	+3.4	−13.0
Rubber boots and shoes	15.78	−3.1	−4.2
Rubber goods, other than boots and shoes, tires, and inner tubes	19.51	−2.1	−12.1
Machinery, not including transportation equipment:			
Agricultural implements	18.71	+19.9	−2.9
Electrical machinery, apparatus, and supplies	23.85	−.9	−13.0
Engines, turbines, and water wheels	21.01	−3.6	−7.4
Cash registers and calculating machines	23.26	−6.1	−17.6
Foundry and machine-shop products	18.83	+1.5	−20.7
Machine tools	22.21	−.1	−7.7
Textile machinery and parts	21.04	−3.4	−7.7
Typewriters and supplies	17.03	+7.2	−14.9
Radio	20.51	−9.1	−4.9
Railroad repair shops:			
Electric railroad	28.10	−2.1	−7.9
Steam railroad	23.28	−5.3	−19.7

General Index Numbers of Employment and Pay Rolls in Manufacturing Industries

GENERAL index numbers of employment and pay rolls in manufacturing industries by months from January, 1926, to December, 1931, inclusive, are shown in the following table for the 54 industries which were formerly used in constructing indexes of employment and earings. In addition, similar indexes computed from the 89 industries listed in Table 1 are presented for each of the 12 months of 1931 and for January and February, 1932.

TABLE 3.—GENERAL INDEXES OF EMPLOYMENT AND TOTAL PAY ROLL IN **MANUFACTURING** INDUSTRIES, JANUARY, 1926, TO DECEMBER, 1931, BASED ON 54 INDUSTRIES, AND FROM JANUARY, 1931, TO FEBRUARY, 1932, BASED ON 89 INDUSTRIES

[12-month average, 1926=100]

Month	Employment								Total pay roll							
	Based on 54 industries						Based on 89 industries		Based on 54 industries						Based on 89 industries	
	1926	1927	1928	1929	1930	1931	1931	1932	1926	1927	1928	1929	1930	1931	1931	1932
January	100.4	97.3	91.6	95.2	90.2	73.1	74.6	64.8	98.0	94.9	89.6	95.5	87.6	62.3	63.7	48.6
February	101.5	99.0	93.0	97.4	90.3	74.1	75.3	65.6	102.2	100.6	93.9	101.8	90.7	67.0	68.1	49.6
March	102.0	99.5	93.7	98.6	89.8	74.8	75.9	.....	103.4	102.0	95.2	103.9	90.8	68.5	69.6	.....
April	101.0	98.6	93.3	99.1	89.1	74.5	75.7	.....	101.5	100.8	93.8	104.6	89.8	67.4	68.5	.....
May	99.8	97.6	93.0	99.2	87.7	74.1	75.2	.....	99.8	99.8	94.1	104.8	87.6	66.6	67.7	.....
June	99.3	97.0	93.1	98.8	85.5	72.2	73.4	.....	99.7	97.4	94.2	102.8	84.1	62.5	63.8	.....
July	97.7	95.0	92.2	98.2	81.6	70.4	71.7	.....	95.2	93.0	91.2	98.2	75.9	59.1	60.3	.....
August	98.7	95.1	93.6	98.6	79.9	70.0	71.2	.....	98.7	95.0	94.2	102.1	73.9	58.5	59.7	.....
September	100.3	95.8	95.0	99.3	79.7	69.6	70.9	.....	99.3	94.1	95.4	102.6	74.2	55.4	56.7	.....
October	100.7	95.3	95.9	98.3	78.6	67.3	68.9	.....	102.9	95.2	99.0	102.3	72.7	53.7	55.3	.....
November	99.5	93.5	95.4	94.8	76.5	65.4	67.1	.....	99.6	91.6	96.1	95.1	68.3	51.0	52.5	.....
December	98.9	92.6	95.5	91.9	75.1	65.3	66.7	.....	99.8	93.2	97.7	92.0	67.4	50.9	52.2	.....
Average	**100.0**	**96.4**	**93.8**	**97.5**	**83.7**	**70.9**	**72.2**	[1] **65.2**	**100.0**	**96.5**	**94.5**	**100.4**	**80.3**	**60.2**	**61.5**	[1] **49.1**

[1] Average for 2 months.

Time Worked in Manufacturing Industries in February, 1932

REPORTS as to working time in February were received from 13,046 establishments in 89 manufacturing industries. Two per cent of these establishments were idle, 49 per cent operated on a full-time basis, and 49 per cent worked on a part-time schedule.

An average of 87 per cent of full-time operation in February was shown by reports received from all the operating establishments included in this tabulation. In the establishments reporting only part-time operation, the average percentage of full-time operation was 74.

TABLE 4.—PROPORTION OF FULL TIME WORKED IN **MANUFACTURING** INDUSTRIES BY ESTABLISHMENTS REPORTING IN FEBRUARY, 1932

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Food and kindred products	**2,180**	**1**	**73**	**27**	**94**	78
Slaughtering and meat packing	178		80	20	98	88
Confectionery	266	1	44	55	86	76
Ice cream	219	(1)	59	41	94	84
Flour	395	1	76	24	93	71
Baking	615	1	86	13	97	80
Sugar refining, cane	9		22	78	86	82
Beet sugar	37		73	27	93	76
Beverages	270	(1)	68	31	92	74
Butter	191		79	21	97	84
Textiles and their products	**2,271**	**2**	**63**	**35**	**92**	76
Cotton goods	518	1	57	42	89	74
Hosiery and knit goods	354	2	63	35	92	76
Silk goods	253	2	69	28	93	75
Woolen and worsted goods	185	2	67	31	93	78
Carpets and rugs	26	4	23	73	79	72
Dyeing and finishing textiles	134	1	55	44	93	83
Clothing, men's	238	1	60	39	92	81
Shirts and collars	76	4	51	45	90	78
Clothing, women's	232	6	75	19	94	72
Millinery	87		79	21	96	83
Corsets and allied garments	22		68	32	94	82
Cotton small wares	77	1	58	40	90	77
Hats, fur-felt	18		61	39	92	80
Men's furnishings	51	4	57	39	89	73
Iron and steel and their products, not including machinery	**917**	**3**	**22**	**76**	**75**	68
Iron and steel	137	6	23	72	74	66
Cast-iron pipe	38	8	5	87	62	60
Structural-iron work	130	4	10	86	73	70
Hardware	59	2	22	76	79	71
Steam fittings and steam and hot-water heating apparatus	88	2	3	94	61	60
Stoves	94	3	13	84	69	64
Bolts, nuts, washers, and rivets	43		23	77	81	75
Cutlery and edge tools	77		44	56	82	67
Forgings, iron and steel	27		37	63	79	67
Plumbers' supplies	48		25	75	77	70
Tin cans and other tinware	41		39	61	88	81
Tools, not including edge tools	89	2	30	67	79	70
Wirework	46		35	65	84	76
Lumber and allied products	**1,075**	**3**	**30**	**67**	**83**	75
Lumber, sawmills	448	4	26	70	76	68
Lumber, millwork	265	2	23	76	77	70
Furniture	349	2	41	57	94	90
Turpentine and rosin	13		38	62	93	88
Leather and its manufactures	**354**	**1**	**54**	**45**	**89**	76
Leather	110	1	48	51	88	77
Boots and shoes	244	(1)	57	43	90	76

[1] Less than one-half of 1 per cent.

TABLE 4.—PROPORTION OF FULL TIME WORKED IN **MANUFACTURING** INDUSTRIES BY ESTABLISHMENTS REPORTING IN FEBRUARY, 1932—Continued

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Paper and printing	**1,467**	**1**	**49**	**50**	**89**	**79**
Paper and pulp	290	2	41	57	85	74
Paper boxes	249		24	76	82	77
Printing, book and job	540	(1)	37	63	88	81
Printing, newspapers and periodicals	388	2	89	10	99	89
Chemicals and allied products	**781**	(1)	**67**	**33**	**92**	**77**
Chemicals	94	1	78	21	95	78
Fertilizers	161	1	66	33	93	79
Petroleum refining	63		84	16	98	89
Cottonseed oil, cake, and meal	29		86	14	97	81
Druggists' preparations	26		62	38	94	85
Explosives	17		59	41	79	49
Paints and varnishes	321	(1)	60	40	90	75
Rayon	13		54	46	93	85
Soap	57		72	28	95	82
Stone, clay, and glass products	**751**	**12**	**37**	**51**	**81**	**67**
Cement	80	11	76	13	97	80
Brick, tile, and terra cotta	296	19	16	66	68	61
Pottery	89	4	26	70	76	67
Glass	138	4	76	20	96	79
Marble, granite, slate, etc	148	11	29	60	83	74
Nonferrous metals and their products	**447**	(1)	**36**	**64**	**82**	**73**
Stamped and enameled ware	67		24	76	78	71
Brass, bronze, and copper products	139	1	27	72	80	73
Aluminum manufactures	15		47	53	89	80
Clocks, clock movements, etc	17		35	65	84	76
Gas and electric fixtures	33	3	33	64	82	72
Plated ware	133		45	55	84	71
Smelting and refining, copper, lead, and zinc	26		35	65	83	74
Jewelry	17		71	29	93	76
Tobacco manufactures	**192**	**2**	**23**	**74**	**81**	**75**
Chewing and smoking tobacco and snuff	24		46	54	88	79
Cigars and cigarettes	168	2	20	77	80	75
Transportation equipment	**324**	**2**	**42**	**56**	**85**	**73**
Automobiles	175		27	73	81	73
Aircraft	33	9	67	24	92	71
Cars, electric and steam railroad	27		26	74	74	65
Locomotives	12		50	50	83	66
Shipbuilding	77	3	71	26	94	79
Rubber products	**131**		**36**	**64**	**85**	**77**
Rubber tires and inner tubes	33		15	85	81	78
Rubber boots and shoes	9		44	56	89	81
Rubber goods, other than boots, shoes, tires, and inner tubes	89		43	57	87	77
Machinery, not including transportation equipment	**1,351**	**1**	**27**	**72**	**76**	**67**
Agricultural implements	62		29	71	80	72
Electrical machinery, apparatus, and supplies	175	1	23	77	81	75
Engines, turbines, and water wheels	54		24	76	73	64
Cash registers and calculating machines	45		53	47	85	67
Foundry and machine-shop products	812	1	26	73	74	65
Machine tools	127	1	18	81	73	68
Textile machinery and parts	30		40	60	84	74
Typewriters and supplies	15		33	67	74	61
Radio	31		45	55	93	87
Railroad repair shops	**805**	(1)	**53**	**47**	**91**	**80**
Electric railroad	397		71	29	95	83
Steam railroad	408	(1)	36	64	87	79
Total—89 industries	**13,046**	**2**	**49**	**49**	**87**	**74**

[1] Less than one-half of 1 per cent.

Employment in Nonmanufacturing Industries in February, 1932

IN THE following table are presented employment and pay-roll data for 14 groups of nonmanufacturing industries, the totals of which also appear in the summary table of employment and earnings.

TABLE 1.—COMPARISON OF EMPLOYMENT AND EARNINGS IN NONMANUFACTURING ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, AND FEBRUARY, 1931

Industrial group	Establishments reporting in both mos.	Employment			Earnings			Index numbers February, 1932, (average 1929=100)	
		Number on pay rolls, February, 1932	Per cent of change		Amount of pay roll (1 week) February, 1932	Per cent of change			
			January to February, 1932	February, 1931, to February, 1932		January to February, 1932	February, 1931, to February, 1932	Employment	Earnings
Anthracite mining	160	97,327	−6.6	−20.4	$2,277,449	−6.7	−43.8	71.2	57.3
Bituminous coal mining	1,242	188,544	−4.2	−15.4	2,994,361	+0.1	−31.2	77.4	47.0
Metalliferous mining	249	28,805	−4.9	−28.2	541,009	−6.4	−49.1	46.9	27.8
Quarrying and nonmetallic mining	582	20,449	−3.1	−28.8	343,574	−2.2	−45.6	47.4	29.6
Crude petroleum producing	259	15,044	−1.0	−25.7	451,087	+0.9	−33.0	54.4	46.9
Telephone and telegraph	8,211	290,428	−1.2	−8.1	8,558,269	+0.5	−5.5	82.0	89.6
Power, light, and water	3,378	226,063	−2.4	−10.8	7,018,910	−2.7	−13.7	87.2	86.0
Electric railroad operation and maintenance, exclusive of car shops	497	134,196	−0.7	−8.9	4,019,961	−0.9	−15.5	78.9	73.6
Wholesale trade	2,590	71,698	−1.2	−8.3	2,047,695	−2.2	−18.0	80.9	72.5
Retail trade	12,616	325,684	−4.5	−7.6	7,150,460	−5.6	−15.0	80.5	73.7
Hotels	2,245	143,491	+1.3	−11.9	2,185,826	+0.1	−21.0	85.3	74.0
Canning and preserving	764	25,134	+5.9	−23.2	386,636	+2.9	−32.7	37.1	32.7
Laundries	909	58,619	−2.1	−7.8	1,003,926	−4.0	−14.4	(1)	(1)
Dyeing and cleaning	364	10,769	−2.0	−8.1	210,564	−5.5	−17.2	(1)	(1)

[1] Data not available.

Indexes of Employment and Earnings for Nonmanufacturing Industries

INDEX numbers of employment and earnings for the years 1929, 1930, and 1931, and by months, January, 1931, to February, 1932, for 12 of the 14 nonmanufacturing industries appearing in the preceding table, are shown in Table 2. Index numbers for the laundering and the dyeing and cleaning groups are not presented, as data for the index base year (1929) are not available.

TABLE 2.—INDEXES OF EMPLOYMENT AND EARNINGS FOR **NONMANUFACTURING** INDUSTRIES, 1929 TO FEBURARY, 1932

[12-month average, 1929=100]

Year and month	Anthracite mining		Bituminous coal mining		Metalliferous mining		Quarrying and nonmetallic mining		Crude petroleum producing		Telephone and telegraph		Power, light, and water		Operation and maintenance of electric railroads [1]		Wholesale trade		Retail trade		Hotels		Canning and preserving	
	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings	Employment	Earnings
1929 average	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
1930 average	**93.4**	**95.3**	**93.4**	**81.3**	**83.2**	**78.0**	**84.3**	**79.3**	**87.4**	**85.9**	**97.9**	**102.9**	**103.0**	**104.3**	**93.4**	**93.5**	**96.0**	**95.9**	**95.9**	**96.2**	**99.2**	**98.5**	**103.9**	**96.1**
1931																								
January	90.6	89.3	93.9	73.3	68.3	55.0	64.4	50.4	74.8	71.5	90.5	96.3	99.2	98.6	86.9	85.6	89.5	87.5	90.0	89.4	95.0	91.0	48.9	46.1
February	89.5	101.9	91.5	68.3	65.3	54.6	66.6	54.4	73.2	70.0	89.2	94.8	97.8	99.7	86.6	87.1	88.2	88.4	87.1	86.7	96.8	93.7	48.3	48.6
March	82.0	71.3	88.8	65.2	63.5	52.8	70.0	58.2	72.2	73.2	88.6	97.9	96.7	102.4	86.4	88.1	87.4	89.1	87.8	87.5	96.8	93.4	53.0	50.3
April	85.2	75.2	85.9	58.6	63.9	51.4	76.1	62.6	69.8	66.3	88.1	95.0	97.1	97.6	86.8	86.6	87.4	85.2	90.1	88.3	95.9	89.9	59.6	57.1
May	80.3	76.1	82.4	54.4	62.4	49.3	75.0	62.3	67.8	64.7	87.4	94.1	97.6	98.7	85.9	85.1	87.1	84.7	89.9	88.0	92.5	87.7	56.0	56.0
June	76.1	66.7	78.4	52.4	60.0	46.1	72.3	60.1	65.0	62.7	86.9	95.0	97.2	98.3	85.3	84.8	87.1	84.1	89.1	87.6	91.6	85.4	70.6	58.6
July	65.1	53.7	76.4	50.4	56.2	41.3	71.0	57.3	65.3	59.2	86.6	93.3	96.7	97.4	85.6	83.3	86.8	83.3	83.9	83.3	93.3	85.2	102.2	74.2
August	67.3	56.4	77.0	50.6	55.8	40.2	68.9	55.1	62.4	56.3	85.9	92.3	95.9	96.2	84.8	81.9	86.5	82.1	81.8	80.3	92.8	83.8	142.9	104.7
September	80.0	64.9	80.4	53.6	55.5	40.0	66.6	51.2	61.2	55.2	85.0	92.1	94.7	94.3	84.0	81.2	86.1	81.4	86.6	83.5	90.6	81.9	180.1	129.4
October	86.8	91.1	81.3	56.2	53.8	37.4	64.5	48.7	60.4	54.4	84.1	91.6	92.7	93.2	82.7	79.0	85.2	79.9	89.8	84.6	88.5	79.7	108.1	77.6
November	83.5	79.5	81.1	54.6	52.8	35.1	59.3	43.3	57.6	52.0	83.5	89.7	91.3	93.3	81.5	79.7	84.1	79.7	90.9	85.4	85.9	77.1	60.8	48.1
December	79.8	78.4	81.2	52.3	51.2	34.3	53.9	36.9	58.2	54.9	83.1	92.7	90.3	91.2	79.9	77.8	83.7	77.8	106.2	94.1	84.1	75.4	40.7	36.9
1931 average	**80.5**	**75.4**	**83.2**	**57.5**	**59.1**	**44.8**	**67.4**	**53.4**	**65.7**	**61.7**	**86.6**	**93.7**	**95.6**	**96.7**	**84.7**	**83.4**	**86.6**	**83.6**	**89.4**	**86.6**	**92.0**	**85.4**	**80.9**	**65.6**
1932																								
January	76.2	61.5	80.8	47.0	49.3	29.7	48.9	30.2	54.9	46.5	83.0	89.1	89.3	88.4	79.5	74.3	81.8	74.1	84.3	78.0	84.2	73.9	35.0	31.8
February	71.2	57.3	77.4	47.0	46.9	27.8	47.4	29.6	54.4	46.9	82.0	89.6	87.2	86.0	78.9	73.6	80.9	72.5	80.5	73.7	85.3	74.0	37.1	32.7

[1] Not including electric-railroad car building and repairing; see transportation equipment and railroad repair shop groups, manufacturing industries, Table 1.

Trend of Employment in February, 1932, by States

IN THE following table are shown the fluctuations in employment and earnings in February, 1932, as compared with January, 1932, in certain industrial groups, by States. These tabulations have been prepared from information secured directly from reporting establishments and from data supplied by cooperating State agencies. The fluctuations in employment and earnings over the month interval in the combined total of the 15 industrial groups included in this monthly survey are presented, together with the changes in the manufacturing, public utility, hotel, wholesale trade, retail trade, bituminous coal mining, crude petroleum producing, quarrying and nonmetallic mining, metalliferous mining, laundries, and dyeing and cleaning groups. In presenting data concerning the public utility group, the totals of the telephone and telegraph, power-light-water, and electric railroad operation groups have been combined and are presented as one group in this State compilation. Due to the extreme seasonal fluctuations in the canning and preserving industry, and the fact that during certain months the activity in this industry in a number of States is negligible, data for this industry are not presented separately. The number of employees and the amount of weekly earnings in January and February as reported by identical establishments in this industry are included, however, in the tabulation of "all groups" by States.

As the anthracite mining industry is confined entirely to the State of Pennsylvania, the changes reported in this industry in the summary table are the fluctuations in this industry by State total.

Where the identity of any reporting company would be disclosed by the publication of a State total for any industrial group, figures for the group do not appear in the separate industrial group tabulation, but have been included in the State totals for "all groups." Data are not presented for any industrial group where the representation covers less than three establishments.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Total—all groups					Manufacturing				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	501	49,783	−2.3	$636,382	−5.2	195	31,491	+[1]	$399,596	−4.2
Arkansas	*441*	*14,392*	*−1.4*	*227,854*	*−3.2*	*176*	*9,061*	*+1.2*	*125,709*	*+0.2*
Arizona	350	10,519	−4.6	242,004	−7.7	57	1,952	−1.7	45,981	−2.6
California	*1,386*	*201,617*	*−0.7*	*5,265,163*	*−0.9*	*1,133*	*118,744*	*−0.1*	*2,999,777*	*+0.5*
Colorado	600	30,354	+1.7	672,571	−2.1	120	11,770	+10.7	236,727	+3.7
Connecticut	1,001	134,919	−0.8	2,692,080	−1.0	607	115,491	−0.4	2,147,021	−0.9
Delaware	128	9,099	+4.1	190,474	+3.4	50	6,178	+3.4	133,730	+7.1
Dist. of Columbia	254	28,364	−1.9	738,563	−0.8	55	3,972	−1.0	140,800	−1.9
Florida	571	28,462	+12.8	487,325	+3.4	134	14,201	+1.9	221,938	−3.3
Georgia	595	62,768	+0.8	889,130	+[1]	275	49,729	+2.5	584,031	+3.7
Idaho	147	6,848	−5.9	136,051	−4.3	31	3,034	−4.4	52,513	−1.3
Illinois	*1,373*	*297,746*	*+0.2*	*6,971,366*	*−2.8*	*1,069*	*186,752*	*+0.7*	*3,877,797*	*−2.9*
Indiana	1,307	126,644	−1.5	2,648,881	−2.3	592	93,957	−1.0	1,910,528	−2.8
Iowa	1,202	45,810	−2.1	946,362	−2.9	485	25,479	−2.2	502,366	−3.2
Kansas	852	34,147	−0.2	743,391	−1.3	317	19,931	+[1]	454,015	−1.9
Kentucky	933	59,152	+4.0	907,904	+1.5	154	19,771	+20.8	273,250	+3.5
Louisiana	446	27,644	−4.3	445,960	−3.8	169	15,883	−5.1	219,223	−7.5
Maine	513	37,737	+3.6	744,333	+5.9	164	31,180	+4.9	583,445	+8.0
Maryland	*916*	*84,948*	*−1.2*	*1,690,660*	*−1.4*	*498*	*60,151*	*−0.3*	*1,100,859*	*−0.7*
Massachusetts	*7,359*	*334,796*	*+1.1*	*7,658,528*	*−0.5*	*1,044*	*160,464*	*+4.8*	*3,169,324*	*+6.3*
Michigan	1,778	313,133	+2.6	7,699,943	+8.4	*422*	*220,628*	*+1.9*	*5,399,369*	*+4.9*
Minnesota	1,102	61,286	−1.4	1,392,422	−1.9	279	30,717	+0.1	656,632	−1.7
Mississippi	389	9,918	−2.8	144,616	+1.7	76	5,728	−3.1	62,858	+0.8
Missouri	1,101	106,584	−0.9	2,340,420	−1.2	513	59,777	−0.2	1,204,263	−0.6
Montana	282	7,439	−11.1	205,394	−3.6	48	2,074	−20.8	45,837	−11.9
Nebraska	613	23,141	−2.1	549,043	−3.1	128	11,238	−3.2	265,897	−5.3
Nevada	124	1,504	+1.8	42,636	+0.6	16	219	+0.5	6,836	+0.3
New Hampshire	401	27,536	+5.7	510,414	+10.4	143	23,786	+7.1	413,461	+13.4
New Jersey	1,452	200,242	+1.1	4,834,305	−0.3	[2] *751*	*186,060*	*+1.4*	*4,340,034*	−[2]
New Mexico	156	4,418	−2.6	86,371	−1.8	19	251	−2.3	5,740	+1.4
New York	3,093	501,878	−0.7	12,685,654	−1.6	[3] *1,681*	*341,340*	−[1]	*8,200,128*	*−1.4*
North Carolina	1,083	88,805	+0.2	1,150,459	+2.0	474	81,766	+0.2	1,030,330	+1.9
North Dakota	315	3,440	−1.2	80,624	−0.1	56	902	−0.6	24,475	−0.3
Ohio	3,087	351,695	−0.7	7,453,892	+2.3	1,429	259,928	+0.9	5,420,948	+4.5
Oklahoma	585	24,215	−2.7	550,586	−3.4	97	8,530	−2.4	182,467	−4.8
Oregon	747	25,261	−3.3	544,347	−4.4	176	13,882	−3.2	256,686	−4.0
Pennsylvania	4,102	620,371	−1.6	12,096,531	−2.2	2,057	361,953	−[1]	6,412,990	−0.3
Rhode Island	549	57,607	+2.4	1,188,049	+0.7	280	45,709	+3.8	889,078	+2.1
South Carolina	401	50,071	+1.5	563,171	+2.2	179	45,813	+1.3	490,879	+2.6
South Dakota	229	5,620	−2.2	140,698	−1.3	45	1,962	−2.0	39,713	−7.1
Tennessee	762	62,888	−0.6	942,210	−1.3	270	44,446	+0.9	637,192	+0.6
Texas	*503*	*58,085*	*−3.6*	*1,459,011*	*−3.1*	[4] *310*	*36,583*	*−2.8*	*945,053*	*−2.9*
Utah	254	12,794	−2.7	277,887	−7.7	70	2,645	−12.1	54,521	−12.0
Vermont	347	9,782	+6.8	208,255	+6.9	117	5,448	+13.0	113,566	+15.5
Virginia	940	67,719	−0.3	1,128,419	−2.7	261	49,008	+1.0	789,680	−2.1
Washington	870	46,102	−3.9	1,061,058	−2.7	259	22,885	−5.4	457,683	−4.6
West Virginia	708	84,183	−0.2	1,527,588	+2.7	186	33,529	+3.2	684,307	+4.8
Wisconsin	*1,122*	*134,500*	*+1.4*	*2,556,093*	*+4.8*	*800*	*105,605*	*+5.0*	*1,908,782*	*+11.4*
Wyoming	153	6,313	−4.6	195,930	+10.8	24	1,426	−2.5	47,805	+2.9

[1] Less than one-tenth of 1 per cent.
[2] Includes laundries.
[3] Includes laundering and cleaning.
[4] Includes crude petroleum producing.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED—Continued

State	Wholesale trade					Retail trade				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	17	616	+0.5	$18,019	+2.5	71	2,681	−9.9	$41,829	−15.1
Arkansas	17	523	−0.3	15,434	−0.3	137	1,524	−5.2	29,010	−0.3
Arizona	21	194	−2.5	5,591	−1.7	169	1,227	−6.6	24,982	−5.7
California	56	3,924	−1.0	120,942	−3.8	91	25,093	−3.7	542,810	−7.7
Colorado	23	705	−2.4	22,899	−4.1	131	3,173	−4.0	69,928	−4.3
Connecticut	64	1,338	−0.7	42,010	−0.3	122	4,850	−7.6	105,720	−7.8
Delaware	9	117	−3.3	2,651	+2.6	14	174	−2.2	2,889	−11.5
Dist. of Columbia	27	381	−3.3	12,946	−0.6	41	7,790	−4.8	184,722	−3.0
Florida	50	813	+0.4	21,129	+0.2	87	1,404	−2.5	31,825	−5.6
Georgia	28	314	−0.6	9,421	−0.8	45	2,172	−4.9	38,868	−3.7
Idaho	6	113	−2.6	3,322	−1.4	22	457	−13.9	8,817	−11.9
Illinois	15	1,044	+4.2	26,365	+1.5	64	18,173	−2.3	461,772	−2.6
Indiana	70	1,379	−2.8	38,869	−4.5	284	6,161	−4.8	120,273	−7.4
Iowa	39	1,171	−1.5	33,644	−3.6	130	2,532	−5.1	44,977	−9.4
Kansas	37	1,095	+1.1	27,506	−4.0	63	1,824	−1.9	33,120	−7.3
Kentucky	22	518	−0.8	11,360	−3.1	200	1,968	−1.2	37,457	−3.2
Louisiana	32	742	−0.3	16,861	+1.0	55	3,239	+0.8	51,912	−2.2
Maine	15	462	+0.4	10,995	−2.8	76	1,182	−10.1	24,554	−7.6
Maryland	33	843	−2.0	20,500	−4.0	44	5,142	−6.9	96,151	−6.1
Massachusetts	692	14,707	−0.5	424,715	−1.6	3,907	57,709	−2.2	1,295,153	−3.1
Michigan	54	1,598	−2.9	52,787	−3.7	540	12,597	−3.1	290,444	−3.7
Minnesota	60	4,044	+0.3	117,355	+0.5	352	7,088	−5.9	143,798	−3.3
Mississippi	5	131	−2.2	2,670	−9.1	65	419	−8.3	5,368	−4.8
Missouri	54	5,265	−1.2	135,400	−3.4	137	6,275	−1.9	131,422	−2.6
Montana	13	232	−1.7	8,263	−3.0	30	711	−6.8	16,924	−7.9
Nebraska	39	1,278	−2.1	38,059	−2.2	92	1,336	−2.3	26,468	−5.4
New Hampshire	14	164	−4.7	4,955	−3.2	64	585	−6.1	11,796	−6.2
New Jersey	31	735	−0.1	22,478	−2.2	413	7,732	−2.7	186,835	−2.7
New Mexico	10	117	−0.8	4,536	+6.1	37	232	−11.8	6,105	−3.7
Nevada	6	80	+6.7	3,190	+7.6	31	218	−6.4	6,165	−4.1
New York	187	5,403	−1.9	175,971	−3.8	190	41,559	−6.8	1,062,313	−5.9
North Carolina	22	493	+0.4	12,698	−1.5	437	1,987	−5.2	32,037	−2.9
North Dakota	16	217	−0.5	6,846	+2.3	41	400	−4.5	7,301	−8.3
Ohio	180	4,519	−1.1	131,985	−2.1	556	26,209	−4.2	537,192	−6.1
Oklahoma	44	702	−1.4	19,148	−4.7	57	1,321	−10.4	26,013	−10.2
Oregon	50	1,291	−0.6	36,881	−4.7	257	2,338	−4.8	48,743	−13.2
Pennsylvania	140	3,504	−2.2	97,134	−3.3	340	26,543	−1.5	543,887	−6.8
Rhode Island	46	1,233	+1.0	29,062	−5.2	148	5,074	−3.1	114,341	−4.2
South Carolina	18	224	−4.3	5,571	−3.9	91	724	−4.7	10,402	−2.9
South Dakota	10	123	−2.4	4,008	−4.9	20	239	−10.5	4,758	−10.4
Tennessee	36	822	−1.7	17,954	−5.0	85	3,628	−7.6	62,647	−7.2
Texas	53	2,530	+0.9	69,223	+0.1	60	6,911	−9.7	147,091	−9.6
Utah	15	500	+0.6	13,290	−1.4	21	382	+3.8	7,464	+1.0
Vermont	5	108	−2.7	2,845	−6.8	37	331	−9.8	7,150	−4.1
Virginia	40	1,424	−2.7	28,960	+0.6	370	2,742	−3.7	52,941	−3.2
Washington	81	1,934	−3.4	58,378	−3.6	180	5,627	−6.6	113,237	−7.5
West Virginia	41	638	−5.1	20,129	−6.8	53	994	−3.4	18,989	−4.6
Wisconsin	44	2,009	−0.3	52,963	+4.7	57	7,364	−13.2	125,994	−10.2
Wyoming	12	94	(1)	3,394	−6.9	19	174	−9.4	4,949	−5.9

[1] No charge.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED—Continued

State	Quarrying and nonmetallic mining					Metalliferous mining				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	7	447	−11.7	$5,182	−24.9	5	787	−42.7	$9,742	−34.9
Arkansas	9	182	−17.6	2,198	−20.0					
Arizona						14	4,656	−6.3	107,938	−12.2
California	29	762	+4.4	16,840	+12.5	19	1,711	−4.3	45,022	−6.3
Colorado						17	755	−4.8	21,275	−4.2
Connecticut	10	202	−20.5	4,248	−14.0					
Delaware										
Dist. of Columbia										
Florida	7	464	+5.5	6,068	+3.1					
Georgia	15	843	−7.4	10,136	−6.6					
Idaho						13	2,177	−3.8	50,112	−6.7
Illinois	26	474	+2.4	9,034	+5.1					
Indiana	34	1,638	+3.1	31,921	+6.3					
Iowa	15	184	−14.4	2,944	−17.9					
Kansas	21	523	−3.7	11,007	−3.4	12	381	−3.3	6,627	−4.8
Kentucky	27	535	+16.8	4,649	+26.4					
Louisiana	4	489	−25.8	6,949	−15.3					
Maine	4	122	−18.7	4,508	−10.3					
Maryland	*18*	*353*	*−17.5*	*5,027*	*−19.8*					
Massachusetts	*15*	*336*	*+16.3*	*7,006*	*+7.9*					
Michigan	12	315	+6.1	5,419	+14.3	37	8,178	−1.6	90,943	+2.0
Minnesota	4	71	−15.5	1,795	+59.7	30	805	−24.1	16,616	−19.6
Mississippi	3	38	−2.6	663	+142.9					
Missouri	14	286	+1.4	3,791	−4.3	12	1,882	−6.1	30,751	+0.6
Montana						14	154	+21.3	3,391	+10.7
Nebraska										
New Hampshire										
New Jersey	3	34	−29.2	973	−23.9	3	112	−0.9	2,421	+6.6
New Mexico										
Nevada						16	380	+1.6	10,550	+2.0
New York	41	1,293	+16.4	26,505	+6.6					
North Carolina	9	137	−27.9	1,910	−19.0					
North Dakota										
Ohio	53	1,378	−15.5	26,888	−8.8					
Oklahoma						26	594	+31.1	10,907	+16.1
Oregon										
Pennsylvania	56	2,625	−4.4	28,864	−0.1					
Rhode Island										
South Carolina	6	135	+27.4	669	+27.4					
South Dakota										
Tennessee	20	1,011	−13.6	13,955	−19.1	4	309	+2.3	4,315	−15.7
Texas	*8*	*700*	*−0.6*	*15,118*	*−7.3*					
Utah						12	2,784	−2.5	52,093	−16.8
Vermont	38	2,368	+3.7	51,297	−1.7					
Virginia	18	895	+0.8	9,859	+1.8					
Washington	5	103	+3.0	1,932	+4.5	3	69	−1.4	1,453	+16.6
West Virginia	7	480	−1.0	5,087	−1.7					
Wisconsin	*13*	*122*	*−2.4*	*1,782*	*−12.0*		*768*	*+0.1*	*10,391*	*−10.6*
Wyoming										

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED—Continued

State	Bituminous coal mining					Crude petroleum producing				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	45	9,404	−2.1	$91,348	−2.9					
Arkansas	5	508	−6.8	5,277	−28.0	8	193	−6.3	$5,049	+2.8
Arizona										
California						41	5,199	+2.2	181,855	+4.7
Colorado	41	5,446	−5.9	113,146	−11.4					
Connecticut										
Delaware										
Dist. of Columbia										
Florida										
Georgia										
Idaho										
Illinois	29	8,014	−1.6	177,215	+3.5	7	158	+1.3	3,174	+1.7
Indiana	45	6,292	−2.0	166,756	+8.8	3	12	(1)	169	−6.1
Iowa	21	2,650	+0.3	65,228	+0.7					
Kansas	18	1,636	+2.0	25,111	+9.8	29	610	+7.2	14,409	+3.0
Kentucky	154	25,475	−3.2	351,654	+2.6	6	169	−6.6	3,272	−8.7
Louisiana						6	111	−17.2	3,324	−15.1
Maine										
Maryland	13	1,197	−0.4	16,149	−9.5					
Massachusetts										
Michigan										
Minnesota	3	308	−1.3	5,291	−1.3					
Mississippi										
Missouri	17	1,242	+6.8	28,494	+3.3					
Montana	14	1,103	−8.6	39,321	+17.8	5	44	+2.3	1,293	+3.5
Nebraska										
New Hampshire										
New Jersey										
New Mexico	11	2,066	−1.2	36,869	+0.7					
Nevada										
New York						5	181	+13.1	4,757	+3.7
North Carolina										
North Dakota										
Ohio	64	9,447	−23.4	142,714	−12.5	6	72	+1.4	1,236	+0.9
Oklahoma	17	555	−17.4	9,158	−13.9	60	4,476	−3.4	122,755	−3.5
Oregon										
Pennsylvania	394	56,304	−3.2	780,547	−4.6	19	363	+4.6	9,526	+6.9
Rhode Island										
South Carolina										
South Dakota										
Tennessee	18	3,059	−5.9	30,421	−15.0					
Texas						46	2,871	−4.3	84,772	+0.1
Utah	16	2,804	−1.2	78,963	−3.9					
Vermont										
Virginia	27	4,370	−4.9	46,832	−9.7					
Washington	8	1,246	+2.3	35,453	+35.1					
West Virginia	246	40,134	−2.4	589,184	+2.4	8	384	−1.0	9,232	+1.4
Wisconsin										
Wyoming	28	3,788	−5.7	118,431	+18.3	7	167	−5.6	5,189	−7.4

[1] No change.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED—Continued

State	Public utilities					Hotels				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	123	2,149	−2.5	$47,370	+0.8	25	1,216	+0.2	$12,218	−1.1
Arkansas	50	1,178	−13.0	32,121	−13.1	17	947	+5.6	11,458	+4.3
Arizona	64	1,573	−5.8	42,348	−5.5	13	484	+11.8	7,563	+3.9
California	39	48,184	−0.3	1,484,612	−0.8	242	11,070	−(1)	201,421	−0.7
Colorado	200	5,939	−1.6	163,876	−1.6	32	1,158	−0.4	18,667	+0.9
Connecticut	133	10,290	−0.6	343,529	+0.9	21	1,000	−1.2	14,514	+0.6
Delaware	28	1,092	+0.6	30,826	−2.2	5	254	−1.9	3,528	−3.1
Dist. of Columbia	22	8,347	−1.4	248,259	+0.5	49	4,232	+2.2	69,051	+3.5
Florida	201	4,477	−1.3	125,426	−5.5	65	4,426	+77.3	60,070	+75.7
Georgia	184	7,634	−6.0	225,300	−7.6	20	1,116	−0.7	11,552	+0.7
Idaho	57	749	−3.2	16,459	−1.1	13	253	−0.8	3,469	−3.2
Illinois	59	73,590	+0.3	2,227,829	−2.9	6 50	7,803	−2.8	139,542	−1.3
Indiana	130	10,903	−2.6	288,865	−2.9	63	2,675	−5.3	34,733	−5.5
Iowa	437	10,519	−3.5	261,270	−2.2	57	2,723	+5.4	27,955	(1)
Kansas	294	6,424	−2.8	148,384	−0.3	30	848	+2.9	9,423	+0.8
Kentucky	303	7,361	−3.6	181,594	−1.9	31	1,822	+0.9	22,407	−0.6
Louisiana	151	4,796	−0.4	120,302	+3.2	19	2,157	+3.4	25,433	+1.6
Maine	172	3,143	−2.6	96,562	+1.6	9	562	+4.1	8,146	−3.3
Maryland	82	12,028	−1.6	361,659	−4.1	23	1,552	−3.6	22,414	−0.3
Massachusetts	139	49,129	−0.4	1,488,605	−5.3	95	5,456	−0.7	85,407	−1.7
Michigan	418	25,280	−1.5	772,796	−2.2	75	4,775	−2.8	72,484	−5.5
Minnesota	268	13,590	−1.2	382,155	−1.4	60	3,201	+0.1	44,673	−3.1
Mississippi	202	2,311	−3.9	49,443	−1.0	22	675	+1.7	17,629	+14.8
Missouri	216	23,591	−2.6	687,947	−1.7	79	4,672	+1.7	61,319	−0.4
Montana	115	2,410	−9.4	77,392	−6.7	18	294	+0.7	4,815	−1.6
Nebraska	298	6,451	−0.7	177,102	+0.1	38	1,935	+1.9	25,636	+0.9
New Hampshire	145	2,403	−1.8	70,871	+0.7	8	189	+2.2	2,427	−4.9
New Jersey	274	24,253	−1.3	799,842	−0.8	57	4,204	+9.7	60,092	+1.7
New Mexico	56	563	−5.4	13,169	−7.1	13	336	−3.4	4,339	−3.9
Nevada	40	410	+6.8	12,028	+0.5	11	141	+2.9	2,506	+5.0
New York	15	5,880	−1.6	204,846	−4.3	217	30,391	−1.6	527,563	−2.3
North Carolina	98	2,037	−4.7	44,315	+0.5	27	1,552	+25.6	19,325	+38.3
North Dakota	169	1,300	−0.2	33,513	+2.5	21	388	−3.5	4,574	−1.5
Ohio	491	33,939	−1.5	936,159	−0.6	158	9,206	−(1)	133,874	−0.3
Oklahoma	236	6,500	−2.3	161,345	−0.9	37	942	−1.2	9,880	−0.2
Oregon	190	5,882	−3.7	170,169	−2.6	41	1,124	−0.9	17,835	−2.8
Pennsylvania	701	55,046	−1.2	1,684,969	−0.5	142	9,635	−0.5	140,048	−1.9
Rhode Island	35	3,885	−3.2	123,967	−2.5	12	341	+2.4	5,387	−4.1
South Carolina	70	1,906	+8.3	44,057	+1.2	18	511	+9.0	4,960	+7.7
South Dakota	128	1,128	−4.9	31,607	+1.5	16	360	+1.1	4,764	−3.2
Tennessee	251	5,391	−0.3	130,254	+1.4	42	2,620	−2.1	26,219	−5.1
Texas	16	7,700	−2.6	232,875	+0.1	56	8,661	−3.7	49,651	−1.3
Utah	69	2,047	+3.3	44,498	−3.7	13	544	+1.1	8,266	−5.2
Vermont	125	1,048	−3.9	27,089	−1.2	16	380	−0.5	4,800	+0.9
Virginia	165	6,269	−4.3	161,709	−4.0	29	1,893	−1.0	24,220	−3.3
Washington	204	10,370	−1.7	324,093	−1.0	64	2,152	+1.6	30,571	−1.9
West Virginia	121	6,479	−1.8	179,319	−0.4	16	618	(5)	7,865	+1.1
Wisconsin	42	11,799	−1.3	360,109	−0.7	40	1,403	+5.6		
Wyoming	47	453	−1.9	12,241	+4.6	9	125	+1.6	2,254	−3.6

[1] Less than one-tenth of 1 per cent. [5] No change. [6] Includes restaurants.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1932, BY STATES, FOR 11 INDUSTRIAL GROUPS AND TOTAL OF GROUPS COMBINED—Continued

State	Laundries					Dyeing and cleaning				
	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change	Number of establishments	Number on pay roll February, 1932	Per cent of change	Amount of pay roll (1 week) February, 1932	Per cent of change
Alabama	6	657	−2.7	$7,271	−11.3	4	190	−1.6	$2,304	−8.2
Arkansas	17	446	(3)	4,866	−1.3					
Arizona	8	386	−3.3	6,565	−1.3					
California	[7] 67	5,672	−1.8	117,022	−2.9					
Colorado	13	949	−0.2	14,570	−4.6	10	134	−2.2	2,808	−1.8
Connecticut	28	1,423	−1.7	27,484	−2.3	15	313	−2.5	7,305	−9.9
Delaware	4	320	−5.3	5,133	−2.5	3	37	−7.5	688	−14.2
Dist. of Columbia	17	2,334	−2.7	38,826	−2.6	5	108	−1.8	2,348	−7.1
Florida	9	485	+4.8	5,817	+4.3	4	44	−4.3	726	−2.9
Georgia	14	650	−0.5	6,848	−4.6	4	131	(3)	1,709	+0.2
Idaho										
Illinois	[7] 19	1,344	−3.4	23,452	−5.3					
Indiana	24	1,878	−1.9	28,114	−5.3	10	151	−12.7	2,727	−17.3
Iowa	3	212	−2.8	3,627	−3.8					
Kansas	26	808	+9.2	12,546	+10.3	3	23	−4.2	305	−25.2
Kentucky	20	935	−1.5	12,912	−3.3	6	257	−4.5	3,897	−6.0
Louisiana										
Maine	21	401	−3.8	6,127	−4.7	4	111	−1.8	2,013	−11.0
Maryland	25	1,852	−2.6	30,355	−4.6	16	408	−3.8	6,352	−7.3
Massachusetts	63	2,450	−0.7	45,978	−1.6					
Michigan	23	1,745	−3.2	26,040	−5.5	18	502	−2.9	10,084	−9.3
Minnesota	15	829	−1.2	14,790	−3.8	11	291	−10.5	5,507	−10.2
Mississippi	6	275	−4.2	3,123	−6.9					
Missouri	35	2,918	−2.5	43,892	−2.8	15	384	−3.5	6,800	−7.5
Montana	17	343	−3.1	6,730	−3.0	4	33	−10.8	728	−21.9
Nebraska	10	813	−7.3	14,022	−4.3	4	58	−13.4	1,280	−0.4
New Hampshire	15	288	−0.3	4,533	−5.7					
New Jersey	28	3,125	+(1)	66,731	−4.1	6	307	−3.5	8,197	−9.3
New Mexico	5	137	−13.3	1,928	−21.1					
Nevada	3	47	−2.1	1,159	−5.4					
New York	60	6,851	−3.5	130,923	−4.1	21	605	−1.1	13,454	−6.2
North Carolina	11	748	−3.6	8,955	−7.7	4	61	+3.4	703	−11.3
North Dakota	10	210	−1.4	3,497	−5.0					
Ohio	63	4,114	−1.1	72,967	−3.9	29	1,525	−0.7	28,205	−3.9
Oklahoma	3	331	+0.9	4,897	−2.3	6	239	−1.6	3,636	−1.0
Oregon	5	342	−2.8	6,027	−7.5	4	40	−7.0	963	−4.6
Pennsylvania	47	3,486	−1.1	58,240	−4.0	24	1,078	+2.2	21,418	+0.2
Rhode Island	20	1,138	+0.1	21,567	−0.7	6	213	−0.9	4,337	−5.2
South Carolina	7	298	−2.0	3,148	−7.4	3	48	−5.9	735	−8.8
South Dakota	6	150	−3.2	2,450	−5.4					
Tennessee	16	1,198	−2.2	12,238	−8.1	13	239	−12.1	4,655	−8.0
Texas	20	871	−3.5	11,952	−6.3	16	376	−4.8	6,429	−9.5
Utah	7	571	−2.2	9,025	−4.5	6	80	−3.6	1,654	−5.1
Vermont	5	59	−9.2	863	−6.4	3	25	(3)	437	−1.1
Virginia	9	743	−1.5	8,961	−4.2	15	264	−0.8	4,016	−4.7
Washington	10	586	+1.0	14,025	−1.1	12	153	−5.0	3,358	−5.8
West Virginia	21	765	−5.7	10,947	−10.7	9	162	−3.6	2,529	−20.1
Wisconsin	[7] 25	915	−3.4	13,708	−8.9					
Wyoming	5	73	−3.9	1,426	−10.0					

[1] Less than one-tenth of 1 per cent. [3] No change. [7] Includes dyeing and cleaning.

Employment and Pay Rolls in February, 1932, in Cities of Over 500,000 Population

IN THE following table are presented the fluctuations in employment and earnings in February, 1932, as compared with January, 1932, in 13 cities of the United States having a population of 500,000 or over. These fluctuations are based on reports received from identical establishments in each of the months considered.

These city tabulations include all establishments reporting in the 15 industrial groups in these 13 cities, and also additional employment information secured from banks, insurance companies, garages, and other establishments in these 13 cities. Building construction data are not included in these totals, as information is not available for all cities at this time.

CHANGES IN EMPLOYMENT AND PAY ROLL IN 13 CITIES, DECEMBER, 1931, TO JANUARY, 1932

City	Number of establishments reporting in both months	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		January, 1932	February, 1932		January, 1932	February, 1932	
New York City	1,831	264,505	263,025	−0.6	$7,455,330	$7,347,668	−1.4
Chicago, Ill	1,873	220,583	216,755	−1.7	5,740,400	5,731,581	−0.2
Philadelphia, Pa	635	120,596	118,131	−2.0	2,824,639	2,713,762	−3.9
Detroit, Mich	520	193,595	202,339	+4.5	4,738,611	5,462,077	+15.3
Los Angeles, Calif	527	53,215	52,195	−1.9	1,340,825	1,297,680	−3.2
Cleveland, Ohio	507	71,691	70,864	−1.2	1,632,503	1,643,553	+0.7
St. Louis, Mo	457	66,302	66,554	+0.4	1,477,952	1,494,446	+1.1
Baltimore, Md	467	49,846	48,793	−2.1	1,036,723	1,015,235	−2.1
Boston, Mass	2,618	78,673	77,428	−1.6	2,144,754	2,097,967	−2.2
Pittsburgh, Pa	299	40,812	41,399	+1.4	906,270	901,109	−0.6
San Francisco, Calif	868	38,394	38,924	+1.4	1,005,673	1,030,442	+2.5
Buffalo, N. Y	127	31,824	31,412	−1.3	734,211	725,827	−1.1
Milwaukee, Wis	418	36,394	38,351	+5.4	752,058	810,596	+7.8

Employment in Executive Civil Service of the United States, February, 1932

THE following table shows for the months of February, 1931, and for January and February, 1932, the number of officers and employees in the executive civil service of the United States Government. The figures are complete except for temporary employees in the field service of the Post Office Department. The number of temporary employees in this department varies greatly, mainly because of seasonal demands; the principal demand for such workers is during the Christmas mail rush. Their term of service is usually quite brief.

As indicated by the title of this article, the figures do not include the legislative, judicial, Army, or Navy services.

The data are compiled by the several Federal departments and offices and sent to the United States Civil Service Commission, where they are assembled. They are published here by courtesy of the commission and in compliance with the direction of Congress. Information relating to pay rolls has not yet been collected.

Because of the importance of Washington as a Government center, the figures for the District of Columbia are given separately, but are included in the total for the entire service.

At the end of February, 1932, there were 609,467 employees on the pay roll of the executive civil service of the United States. Of this number, 581,414 were permanent and 28,053 were temporary employees. In the interval between February 28, 1931, and February 29, 1932, there was a gain of 8,189 employees, or 1.34 per cent. Comparing the number on the pay roll on February 29, 1932, with those on the pay roll on January 31, 1932, there was a gain of 512 employees, or 0.08 per cent.

The number employed in the District of Columbia, however, showed a decrease of 2.61 per cent, comparing February, 1932, with February, 1931, and a decrease of 0.18 per cent, comparing February, 1932, with January, 1932. During the month of February, 1932, 33,509 employees were hired and 32,997 employees were separated from the service because of resignation, termination of appointment, death, or other causes. This gives a net turnover rate of 5.42 per cent during the month. This high turnover was caused by emergency work done by the Engineer's Office of the War Department, due to a flood on the lower Mississippi River. This was short-time work—started and completed in February—and occasioned the hiring and lay off of over 24,000 men. The turnover for the District of Columbia was much lower than for the service as a whole. There were 69,260 employees on the Government pay rolls in the District of Columbia at the end of February, 1932.

EMPLOYEES IN THE EXECUTIVE CIVIL SERVICE OF THE UNITED STATES FEBRUARY, 1931, AND JANUARY, FEBRUARY, 1932

Class	District of Columbia			Entire service		
	February, 1931	January, 1932	February, 1932	February, 1931	January, 1932	February, 1932
Permanent employees	[1] 63,244	[2] 65,715	65,995	[1] 564,931	[2] 580,803	581,414
Temporary employees (not including those in the field service of the Post Office Department)	7,849	3,667	3,265	36,347	28,152	28,053
Total	71,093	69,382	69,260	601,278	608,955	609,467

Gain or loss	District of Columbia		Entire service	
	Number	Per cent	Number	Per cent
February, 1931, to February, 1932	−1,833	−2.61	+8,189	+1.34
January, 1932, to February, 1932	−122	−.18	+512	+.08

Labor turnover	District of Columbia	Entire service
Additions in February, 1932	785	[3] 33,509
Separations in February, 1932	907	[3] 32,997
Monthly turnover February, 1932	1.13	[3] 5.42

[1] 69 legislative employees formerly included in this total have been deducted.
[2] 328 legislative employees formerly included in this total have been deducted.
[3] Emergency work by engineer force of War Department due to lower Mississippi flood, short-time work started and completed in February occasioned hiring and laying off of over 24,000 men.

Employment in Building Construction in February, 1932

EMPLOYMENT in building construction decreased 8.6 per cent in February as compared with January, and pay rolls decreased 11.6 per cent during the same period. This information is based on reports received from 7,143 firms engaged in building operations in 50 cities covered by the Federal bureau and 2,152 additional firms in various localities in Pennsylvania, California, Massachusetts, Wisconsin, and the city of Baltimore, Md. All information other than for the 50 cities covered by the Federal bureau in the first section of the table is supplied by cooperating State labor departments which collect this information within their respective jurisdictions.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN THE BUILDING CONSTRUCTION INDUSTRY IN IDENTICAL FIRMS, JANUARY AND FEBRUARY, 1932

Locality	Number of firms reporting	Number on pay roll week ending near—		Per cent of change	Amount of pay roll week ending near—		Per cent of change
		Jan. 15	Feb. 15		Jan. 15	Feb. 15	
Akron	76	343	297	−13.4	$7,972	$7,034	−11.8
Atlanta	124	1,251	976	−22.0	19,287	15,323	−20 6
Birmingham	75	503	437	−13.1	7,863	7,210	−8.3
Bridgeport	139	592	530	−10.5	16,184	14,420	−10.9
Charlotte	36	299	229	−23.4	5,400	4,227	−21.7
Cincinnati [1]	459	2,766	2,477	−10.4	83,371	77,029	−7.6
Cleveland	451	2,582	2,329	−9.8	82,523	66,134	−19.9
Dallas	107	796	766	−3.8	16,020	15,229	−4.9
Dayton	107	563	536	−4.8	13,686	12,802	−6.5
Denver	190	931	845	−9.2	23,751	21,991	−7.4
Des Moines	99	578	514	−11.1	13,134	11,843	−9.8
Detroit	456	3,793	3,672	−3.2	108,462	95,958	−11.5
Duluth	52	204	197	−3.4	4,209	4,161	−1.1
Flint	21	102	138	+35.3	1,830	2,733	+49.3
Fort Wayne	110	445	485	+9.0	10,231	10,375	+1.4
Grand Rapids	83	382	298	−22.0	8,093	6,491	−19.8
Hartford	232	1,380	1,122	−18.7	41,669	31,975	−23.3
Houston	99	739	793	+7.3	14,433	15,170	+5.1
Indianapolis	157	1,026	997	−2.8	27,249	25,975	−4.7
Jacksonville	55	311	226	−27.3	5,042	4,103	−18.6
Kansas City [2]	226	1,511	1,467	−2.9	45,672	42,474	−7.0
Knoxville	30	441	446	+1.1	5,909	5,925	+0.3
Louisville	137	1,086	1,103	+1.6	24,411	23,151	−5.2
Memphi	103	696	595	−14.5	12,370	11,573	−6.4
Miami	80	606	415	−31.5	16,391	9,715	−40.7
Minneapolis	223	1,472	1,230	−16.4	39,557	32,255	−18.5
Nashville	64	899	912	+1.4	15,654	17,474	+11.6
New Haven	212	2,626	2,130	−18.9	95,735	74,387	−22.3
New Orleans	132	1,329	1,169	−12.0	25,173	18,858	−25.1
Norfolk-Portsmouth	84	449	461	+2.7	9,487	9,746	+2.7
Oklahoma City	101	1,081	963	−10.9	29,083	24,433	−16.0
Omaha	128	576	626	+8.7	14,015	15,163	+8.2
Portland, Me	74	324	334	+3.1	8,517	8,143	−4.4
Portland, Oreg	207	966	1,128	+16.8	24,339	26,005	+6.8
Providence	232	2,074	1,577	−24.0	53,297	38,822	−27.2
Richmond	140	1,058	1,091	+3.1	23,131	24,381	+5.4
St. Louis	453	2,413	2,326	−3.6	79,893	74,040	−7.3
St. Paul	118	934	939	+0.5	22,596	21,992	−2.7
Salt Lake City	90	532	387	−27.3	9,853	8,740	−11.3
San Antonio	54	522	561	+7.5	8,964	10,496	+17.1
Seattle	201	1,353	1,374	+1.6	36,094	34,993	−3.1
South Bend	40	230	342	+48.7	5,589	9,018	+61.4
Spokane	38	142	120	−15.5	3,194	2,428	−24.0
Tacoma	31	104	83	−20.2	2,428	2,013	−17.1
Tulsa	51	338	326	−3.6	7,046	6,943	−1.5

[1] Includes Covington and Newport, Ky.
[2] Includes both Kansas City, Kans., and Kansas City, Mo.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN THE BUILDING CONSTRUCTION INDUSTRY IN IDENTICAL FIRMS, JANUARY AND FEBRUARY, 1932—Continued

Locality	Number of firms reporting	Number on pay roll week ending near—		Per cent of change	Amount of pay roll week ending near—		Per cent of change
		Jan. 15	Feb. 15		Jan. 15	Feb. 15	
Washington, D. C	510	7,532	7,355	−2.3	$224,764	$220,673	−1.8
Wheeling	53	223	246	+10.3	4,988	5,134	+2.9
Wichita	61	310	253	−18.4	6,127	4,718	−23.0
Wilmington, Del	101	1,461	1,387	−5.1	33,524	30,816	−8.1
Youngstown	41	191	217	+13.6	4,320	5,035	+16.6
Total, 50 cities	7,143	53,065	49,427	−6.9	1,402,530	1,269,727	−9.5
Erie [3]	21	97	150	+54.6	2,806	3,602	+28.4
Philadelphia [3]	453	3,867	3,433	−11.2	103,885	93,178	−10.3
Pittsburgh [3]	235	1,699	1,510	−11.1	59,681	52,269	−12.4
Reading [3]	62	457	442	−3.3	10,447	11,286	+8.0
Scranton [3]	34	191	182	−4.7	4,737	3,916	−17.3
9 additional cities over 50,000, under 100,000 [3]	187	1,067	1,013	−5.1	23,104	19,962	−13.6
Total, 14 cities	992	7,378	6,730	−8.8	204,660	184,213	−10.0
Los Angeles [3]	49	3,215	2,488	−22.6	70,108	46,672	−33.4
San Francisco-Oakland [3]	67	3,826	3,749	−2.0	96,764	83,027	−14.2
California (including all localities) [3]	189	9,452	8,001	−15.4	215,217	170,064	−21.0
Baltimore, Md. [3]	147	1,389	1,280	−7.9	32,328	28,375	−12.2
Massachusetts [3]	761	6,678	5,833	−12.7	204,177	166,768	−18.3
Wisconsin [3]	63	1,471	1,339	−9.0	33,599	30,631	−8.8
Grand total, all localities	9,295	79,433	72,610	−8.6	2,092,511	1,849,778	−11.6

[3] Data supplied by cooperating State bureaus.

Employment on Class I Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to January, 1932, on Class I railroads—that is, all roads having operating revenues of $1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the 12-month average for 1926 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON CLASS I STEAM RAILROADS IN THE UNITED STATES, JANUARY, 1923, TO JANUARY, 1932

[12-month average, 1926=100]

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
January	98.3	96.9	95.6	95.8	95.5	89.3	88.2	86.3	73.7	61.2
February	98.6	97.0	95.4	96.0	95.3	89.0	88.9	85.4	72.7	.....
March	100.5	97.4	95.2	96.7	95.8	89.9	90.1	85.5	72.9	.....
April	102.0	98.9	96.6	98.9	97.4	91.7	92.2	97.0	73.5	.....
May	105.0	99.2	97.8	100.2	99.4	94.5	94.9	88.6	73.9	.....
June	107.1	98.0	98.6	101.6	100.9	95.9	96.1	86.5	72.8	.....
July	108.2	98.1	99.4	102.9	101.0	95.6	96.6	84.7	72.4	.....
August	109.4	99.0	99.7	102.7	99.5	95.7	97.4	83.7	71.2	.....
September	107.8	99.7	99.9	102.8	99.1	95.3	96.8	82.2	69.3	.....
October	107.3	100.8	100.7	103.4	98.9	95.3	96.9	80.4	67.7	.....
November	105.2	99.0	99.1	101.2	95.7	92.9	93.0	77.0	64.5	.....
December	99.4	96.0	97.1	98.2	91.9	89.7	88.8	74.9	62.6	.....
Average	104.1	98.3	97.9	100.0	97.5	92.9	93.3	83.5	70.6	.....

Table 2 shows the total number of employees on the 15th day each of January and December, 1931, and January, 1932, and pay-roll totals for the entire months.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES, JANUARY AND DECEMBER, 1931, AND JANUARY, 1932

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

Occupation	Number of employees at middle of month			Total earnings		
	Jan. 15, 1931	Dec. 15, 1931	Jan. 15, 1932	January, 1931	December, 1931	January, 1932
Professional, clerical, and general	235,591	205,788	201,832	$34,973,691	$29,808,212	$28,833,163
Clerks	128,984	110,640	107,953	18,058,607	15,101,063	14,546,827
Stenographers and typists	22,087	19,244	18,986	2,914,072	2,487,425	2,421,104
Maintenance of way and structures	267,432	217,195	212,816	25,103,747	18,339,454	17,614,332
Laborers, extra gang and work train	23,521	13,789	13,737	1,617,582	800,998	737,449
Laborers, track and roadway section	138,058	116,197	114,307	9,293,881	6,623,490	6,344,551
Maintenance of equipment and stores	373,867	310,636	304,211	48,101,279	35,934,895	35,130,350
Carmen	77,931	63,843	62,142	11,098,393	8,291,894	7,982,223
Machinists	48,415	42,319	41,531	7,355,065	5,554,186	5,529,368
Skilled trades helpers	82,082	68,041	66,450	8,867,905	6,430,882	6,275,313
Laborers (shops, engine houses, power plants, and stores)	30,945	25,766	25,355	2,933,231	2,326,506	2,243,628
Common laborers (shops, engine houses, power plants, and stores)	40,213	32,042	31,402	3,024,305	2,139,663	2,068,897
Transportation, other than train, engine, and yard	164,623	146,450	142,507	20,990,452	18,453,385	17,644,570
Station agents	28,135	26,877	26,604	4,524,263	4,238,256	4,105,275
Telegraphers, telephoners, and towermen	20,557	18,185	17,977	3,252,937	2,865,381	2,824,576
Truckers (stations, warehouses, and platforms)	23,060	20,497	18,790	2,094,385	1,771,961	1,600,483
Crossing and bridge flagmen and gatemen	19,156	18,542	18,413	1,489,237	1,425,624	1,411,420
Transportation (yard masters, switch tenders, and hostlers)	18,799	16,035	15,643	3,670,711	3,017,659	2,910,240
Transportation, train and engine	257,505	223,292	217,287	50,068,195	42,008,762	40,425,050
Road conductors	29,133	25,292	24,711	6,822,757	5,861,596	5,689,093
Road brakemen and flagmen	56,491	48,948	47,710	9,287,511	7,804,790	7,503,662
Yard brakemen and yard helpers	43,605	38,479	36,856	7,204,577	5,893,951	5,580,078
Road engineers and motormen	34,535	29,956	29,464	9,117,246	7,733,860	7,532,774
Road firemen and helpers	35,605	30,650	30,260	6,614,068	5,585,455	5,423,980
All employees	1,317,817	1,119,396	1,094,296	182,908,075	147,562,367	142,556,705

WHOLESALE AND RETAIL PRICES

Retail Prices of Food in February, 1932

IT HAS been the custom of the Bureau of Labor Statistics to publish each month the retail prices of food and coal, by cities, and index numbers of individual food articles for the United States for all years back to 1913. Rates of electricity for household use and price per 1,000 cubic feet of gas, by cities, have been published for June and December of each year.

In the interest of economy in the cost of printing, these detailed statistics are eliminated from current publications, only summaries for the United States and limited comparisons being shown. Comparable information with that shown in previous publications is on record in the files of the bureau and available to those desiring to make use of it.

Table 1 shows for the United States retail prices and index numbers of food on February 15, 1931, and January 15, and February 15, 1932. These prices are simple averages of actual selling prices reported monthly by retail dealers in 51 cities. The index numbers are based on the average prices in 1913.

TABLE 1.—AVERAGE RETAIL PRICES AND INDEX NUMBERS OF FOOD IN THE UNITED STATES, FEBRUARY 15 AND JANUARY 15, 1932, AND FEBRUARY 15, 1931

Article	Unit	Average retail price on—			Index numbers [1913=100.0]		
		Feb. 15, 1931	Jan. 15, 1932	Feb. 15, 1932	Feb. 15, 1931	Jan. 15, 1932	Feb. 15, 1932
		Cents	*Cents*	*Cents*			
Sirloin steak	Pound	41.0	34.9	33.2	161.4	137.4	130.7
Round steak	do	35.9	30.1	28.4	161.0	135.0	127.4
Rib roast	do	30.5	25.7	24.4	154.0	129.8	123.2
Chuck roast	do	23.3	18.5	17.3	145.6	115.6	108.1
Plate beef	do	15.9	12.3	11.7	131.4	101.7	96.7
Pork chops	do	27.6	20.9	19.1	131.4	99.5	91.0
Bacon, sliced	do	39.2	27.4	26.1	145.2	101.5	96.7
Ham, sliced	do	49.3	37.6	35.8	183.3	139.8	133.1
Lamb, leg of	do	31.1	24.1	23.7	164.6	127.5	125.4
Hens	do	31.7	27.9	27.1	148.8	131.0	127.2
Salmon, red, canned	do	34.3	29.4	28.9			
Milk, fresh	Quart	13.0	11.5	11.4	146.1	129.2	128.1
Milk, evaporated	14½-oz. can	8.7	8.0	7.9			
Butter	Pound	36.3	32.3	29.5	94.8	84.3	77.0
Oleomargarine (all butter substitutes)	do	22.7	18.0	16.5			
Cheese	do	31.2	25.5	24.4	141.2	115.4	110.4
Lard	do	14.5	10.1	9.4	91.8	63.9	59.5
Vegetable lard substitute	do	23.7	21.9	21.7			
Eggs, strictly fresh	Dozen	27.2	29.7	24.2	78.8	86.1	70.1
Bread	Pound	8.0	7.1	7.0	142.9	126.8	125.0
Flour	do	4.0	3.3	3.3	121.2	100.0	100.0
Corn meal	do	5.0	4.0	4.0	166.7	133.3	133.3
Rolled oats	do	8.4	7.7	7.7			
Corn flakes	8-oz. package	9.3	8.6	8.7			
Wheat cereal	28-oz. package	25.2	22.8	22.8			
Macaroni	Pound	18.0	15.9	15.7			
Rice	do	8.9	7.4	7.2	102.3	85.1	82.8
Beans, navy	do	8.9	5.8	5.6			
Potatoes	do	2.7	1.7	1.7	158.8	100.0	100.0
Onions	do	3.6	6.6	7.1			

TABLE 1.—AVERAGE RETAIL PRICES AND INDEX NUMBERS OF FOOD IN THE UNITED STATES, FEBRUARY 15 AND JANUARY 15, 1932, AND FEBRUARY 15, 1931—Continued

Article	Unit	Average retail price on—			Index numbers [1913=100.0]		
		Feb. 15, 1931	Jan. 15, 1932	Feb. 15, 1932	Feb. 15, 1931	Jan. 15, 1932	Feb. 15, 1932
		Cents	*Cents*	*Cents*			
Cabbage	Pound	4.3	4.1	4.3			
Pork and beans	16-oz. can	8.2	8.5	8.3			
Corn, canned	No. 2 can	14.5	11.5	11.3			
Peas, canned	do	15.4	13.4	13.2			
Tomatoes, canned	do	11.1	9.5	9.5			
Sugar	Pound	5.9	5.4	5.4	107.3	98.2	98.2
Tea	do	76.5	74.1	73.6	140.6	136.2	135.3
Coffee	do	37.3	31.1	31.0	125.2	104.4	104.0
Prunes	do	12.7	10.3	10.2			
Raisins	do	11.3	11.5	11.5			
Bananas	Dozen	28.7	23.8	23.7			
Oranges	do	31.5	29.7	30.2			
Weighted food index					127.0	109.3	105.3

Table 2 shows the trend in the retail cost of three important groups of food commodities, viz, cereals, meats, and dairy products, by years and by months for 1931 and 1932. The articles within these groups are as follows:

Cereals: Bread, flour, corn meal, rice, rolled oats, corn flakes, wheat cereal, and macaroni.

Meats: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, hens, and leg of lamb.

Dairy products: Butter, cheese, fresh milk, and evaporated milk.

TABLE 2.—INDEX NUMBERS OF RETAIL COST OF CEREALS, MEATS, AND DAIRY PRODUCTS FOR THE UNITED STATES, BY MONTHS, 1931 AND 1932

[Average cost in 1913=100.0]

Year and month	Cereals	Meats	Dairy products	Year and month	Cereals	Meats	Dairy products
1931: Average for year	135.9	147.0	114.6	1931—Continued.			
January	147.1	159.5	123.6	September	130.2	147.7	114.3
February	144.6	153.4	120.2	October	129.8	142.7	117.0
March	142.4	152.5	120.5	November	129.1	135.4	114.4
April	138.9	151.4	116.5	December	127.8	129.3	111.4
May	137.7	149.3	110.3	1932:			
June	136.3	145.7	108.3	January	126.3	123.4	106.5
July	134.3	147.8	109.6	February	125.0	116.9	102.9
August	132.0	149.1	111.9				

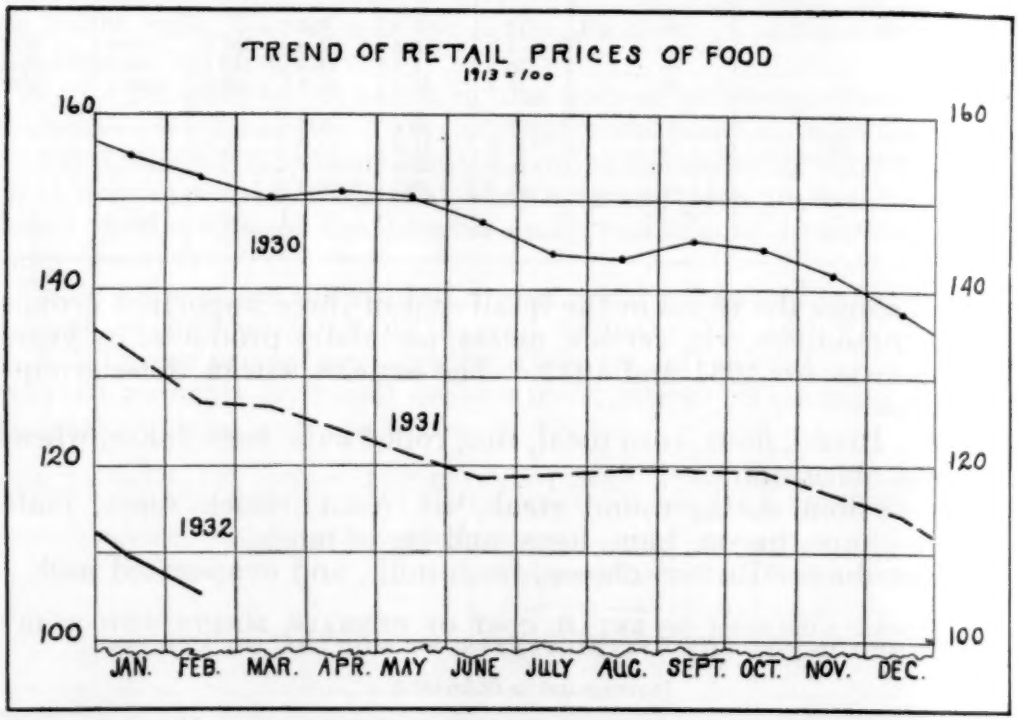
The curve shown in the chart (p. 996) pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.

Comparison of Retail Food Costs in 51 Cities

TABLE 3 shows for 39 cities the percentage of increase or decrease in the retail cost of food in the United States in February, 1932, compared with the average cost in the year 1913, in February, 1931, and January, 1932. For 12 other cities comparisions are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes

are based on actual retail prices secured each month from retail dealers and on the average consumption of these articles in each city. The consumption figures which have been used since January, 1921, are given in the Labor Review for March, 1921 (p. 26). Those used for prior dates are given in the Labor Review for November, 1918 (pp. 94 and 95).

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of February schedules were received from 99 per cent of the firms in the 51 cities from which retail prices of food are collected.



Out of about 1,244 food reports 6 were not received—1 each in Butte, Chicago, Dallas, Louisville, San Francisco, and Seattle.

Out of about 350 bread reports 11 were missing—1 each in Butte, Houston, Indianapolis, Philadelphia, and Salt Lake City and 2 each in Portland (Oreg.), San Francisco, and Seattle.

A perfect record is shown for the following-named cities: Atlanta, Baltimore, Birmingham, Boston, Bridgeport, Buffalo, Charleston (S. C.), Cincinnati, Cleveland, Columbus, Denver, Detroit, Fall River, Jacksonville, Kansas City, Little Rock, Los Angeles, Manchester, Memphis, Milwaukee, Minneapolis, Mobile, Newark, New Haven, New Orleans, New York, Norfolk, Omaha, Peoria, Pittsburgh, Portland (Me.), Providence, Richmond, Rochester, St. Louis, St. Paul, Savannah, Scranton, Springfield (Ill.), and Washington.

TABLE 3.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN FEBRUARY, 1932, COMPARED WITH THE COST IN JANUARY, 1932, FEBRUARY, 1931, AND WITH THE COST IN THE YEAR 1913, BY CITIES

City	Percentage increase February, 1932, compared with 1913	Percentage decrease February, 1932, compared with—		City	Percentage increase February, 1932, compared with 1913	Percentage decrease February, 1932, compared with—	
		February, 1931	January, 1932			February, 1931	January, 1932
United States	5.3	17.1	3.6	Minneapolis	6.3	17.4	3.7
				Mobile		19.4	4.8
Atlanta	2.3	19.8	3.6	Newark	6.6	16.0	2.7
Baltimore	8.3	18.2	4.9	New Haven	13.9	14.8	4.1
Birmingham	1.9	22.0	4.4	New Orleans	6.5	15.9	2.5
Boston	5.3	18.3	3.8				
Bridgeport		13.0	3.3	New York	10.8	16.8	4.1
				Norfolk		15.4	4.0
Buffalo	3.5	19.8	3.8	Omaha	1.4	14.1	2.2
Butte		12.9	5.6	Peoria		17.5	2.2
Charleston, S. C	11.0	16.3	3.4	Philadelphia	8.5	16.6	2.7
Chicago	13.4	18.3	4.4				
Cincinnati	5.2	22.2	6.3	Pittsburgh	3.3	18.9	3.0
				Portland, Me		13.8	2.6
Cleveland	1.0	17.8	2.8	Portland, Oreg	[1] 1.4	12.2	1.6
Columbus		19.0	4.5	Providence	5.3	17.0	4.4
Dallas	0.5	21.5	4.8	Richmond	8.9	17.8	3.6
Denver	[1] 2.9	13.2	2.1				
				Rochester		17.3	2.7
Detroit	[1] 0.9	21.9	5.3	St. Louis	7.5	17.1	2.5
Fall River	4.4	14.5	3.0	St. Paul		15.1	3.2
Houston		15.2	4.3	Salt Lake City	[1] 7.7	15.0	2.2
Indianapolis	[1] 1.5	18.2	3.5	San Francisco	10.3	14.2	1.6
Jacksonville	[1] 5.4	22.8	6.6	Savannah		18.3	4.2
Kansas City	2.3	18.8	4.0	Scranton	11.5	16.7	3.4
Little Rock	[1] 6.6	21.4	4.7	Seattle	4.9	12.5	1.9
Los Angeles	[1] 0.4	13.7	3.0	Springfield		20.7	2.9
				Washington	10.1	19.0	4.3
Louisville	[1] 1.1	17.8	3.9				
Manchester	4.0	15.5	3.1	Hawaii:			
Memphis	[1] 0.3	15.3	1.4	Honolulu		9.2	1.3
Milwaukee	5.6	14.9	4.4	Other localities		8.9	0.6

[1] Decrease.

Retail Prices of Coal in February, 1932

RETAIL prices of coal are secured in each of the 51 cities in which retail food prices are obtained. The prices quoted are for coal delivered to consumers but do not include charges for storing the coal in cellars or bins where an extra handling is necessary.

Average prices for the United States for bituminous coal and for stove and chestnut sizes of Pennsylvania anthracite are computed from the quotations received from retail dealers in all cities where these coals are sold for household use.

The table shows the average prices of coal per ton of 2,000 pounds and index numbers for the United States on Febuary 15, 1932, in comparison with the average prices on February 15, 1931, and January 15, 1932, together with the percentage change in the year and in the month.

AVERAGE RETAIL PRICE PER 2,000 POUNDS OF COAL FOR THE UNITED STATES, AND PER CENT OF CHANGE ON FEBRUARY 15, 1932, COMPARED WITH FEBRUARY 15, 1931, AND JANUARY 15, 1932

Article	Average retail price on—			Per cent of increase (+) or decrease (−) February, 1932, compared with—	
	Feb. 15, 1931	Jan. 15, 1932	Feb. 15, 1932	Feb. 15, 1931	Jan. 15, 1932
Pennsylvania anthracite:					
Stove—					
Average price per 2,000 pounds	$15.09	$15.00	$14.98	−0.7	−0.1
Index (1913=100.0)	195.3	194.2	193.9		
Chestnut—					
Average price per 2,000 pounds	$14.85	$14.97	$14.95	+0.7	−0.1
Index (1913=100.0)	187.6	189.1	188.9		
Bituminous:					
Average price per 2,000 pounds	$8.83	$8.17	$8.14	−7.8	−0.4
Index (1913=100.0)	162.5	150.3	149.7		

Comparison of Retail-Price Changes in the United States and in Foreign Countries

THE principal index numbers of retail prices published by foreign countries have been brought together with those of this bureau in the subjoined table, the base years in all cases being as given in the original reports. As stated in the table, the number of articles included in the index numbers for the different countries differs widely. These results, which are designed merely to show price trends and not actual differences in the several countries, should not, therefore, be considered as closely comparable with one another. In certain instances, also, the figures are not absolutely comparable from month to month over the entire period, owing to slight changes in the list of commodities and the localities included on successive dates.

INDEX NUMBERS OF RETAIL PRICES IN THE UNITED STATES AND IN OTHER COUNTRIES

Country	United States	Canada	Belgium	Czechoslovakia	Denmark	Finland	France (except Paris)	France (Paris)	Germany
Commodities included	42 foods	29 foods	56 (foods, etc.)	29 foods	53 foods	36 foods	13 (11 foods)	13 (11 foods)	Foods
Base=100	1913	1913	April, 1914	July, 1914	July, 1914	January–June, 1914	August, 1914	July, 1914	October, 1913–July, 1914
1926									
July	157	151	637	876	159	1105	[1] 610	574	145
1927									
July	153	149	790	962	153	1102	[1] 553	557	157
1928									
July	153	147	811	943	153	1155	[1] 536	[2] 111	154
1929									
July	158	150	874	925	149	1116	[3] 118	[2] 123	156
1930									
July	144	149	869	886	137	969	[3] 127	[1] 122	146
1931									
January	133	134	846	798	126	893	.....	[2] 132	134
February	127	129	825	789	.....	883	[2] 131	[2] 132	131
March	126	124	811	779	.....	879	.....	[2] 131	130
April	124	121	808	780	123	870	.....	[2] 130	129
May	121	116	803	784	.....	849	128	[2] 129	130
June	118	111	798	811	.....	842	.....	[2] 128	131
July	119	110	789	798	119	846	.....	[2] 125	130
August	120	112	787	771	.....	870	[2] 124	[2] 121	126
September	119	109	786	766	.....	844	.....	[2] 119	125
October	119	107	781	761	119	848	.....	[2] 116	123
November	117	107	776	752	.....	885	[2] 115	[2] 113	122
December	114	107	764	739	.....	919	.....	[2] 113	120

Country	Italy	Netherlands (The Hague)	Norway	Sweden	Switzerland	United Kingdom	South Africa	India (Bombay)	Australia	New Zealand
Commodities included	20 foods and charcoal	Foods	Foods	50 (43 foods, 7 fuel and light)	Foods	21 foods	24 foods	17 foods	46 foods and groceries	59 foods
Base=100	1913	1921	July, 1914	July, 1914	June, 1914	July, 1914	1914	July, 1914	July, 1914	1926–1930
1926										
July	645	[4] 73.5	198	156	159	161	117	155	159	[5] 1026
1927										
July	540	[4] 76.5	175	151	157	159	119	154	152	[5] 983
1928										
July	516	[4] 76.2	173	157	157	157	116	143	152	[5] 1004
1929										
July	558	[4] 74.5	158	151	155	149	116	145	160	[5] 1013
1930										
July	507	[4] 71.6	151	140	152	141	109	136	147	981
1931										
January	463	.....	146	133	148	138	108	111	135	910
February	450	.....	144	132	146	136	107	106	133	879
March	446	66.8	143	133	144	134	107	103	131	856
April	446	.....	141	132	142	129	107	104	131	851
May	449	.....	139	130	141	129	108	102	129	847
June	448	68.7	138	130	141	127	106	101	128	839
July	442	.....	140	130	140	130	104	100	125	824
August	438	.....	138	129	139	128	103	100	124	820
September	438	62.6	136	130	139	128	102	100	124	812
October	441	.....	136	129	138	128	103	100	124	834
November	445	.....	136	129	137	130	102	100	125	832
December	.....	61.0	136	129	134	132	100	101	124	827

[1] For succeeding month.
[2] In gold.
[3] In gold; for succeeding month.
[4] For second month following.
[5] Year.

Index Numbers of Wholesale Prices in February, 1932

THE index number of wholesale prices as computed by the Bureau of Labor Statistics of the United States Department of Labor shows a decrease from January, 1932, to February, 1932. This index number, which includes 784 commodities or price series weighted according to the importance of each article, and based on the average prices for 1926 as 100.0, was 66.3 for February as compared with 67.3 for January, showing a decrease of nearly 1½ per cent between the two months. When compared with February, 1931, with an index number of 76.8, a decrease of approximately 13½ per cent has been recorded.

In the group of farm products, decreases in the average prices of corn, oats, rye, cows, beef steers, hogs, live poultry, dried beans, eggs, oranges, hops, fresh milk in Chicago, seeds, tobacco, potatoes, and most wools caused the group as a whole to decline slightly more than 4 per cent from the month before. Increases in price during the month were shown for barley, wheat, calves, sheep, cotton, fresh apples, lemons, and fresh onions.

Among foods price decreases were reported for butter, cheese, bread, prunes, cured and fresh beef, mutton, bacon, fresh pork, veal, lard, oleomargarine, and raw and granulated sugar, causing the group to decline about 3½ per cent in February when compared with January. Canned peaches and canned pineapple, raisins, lamb, ham, and coconut, cottonseed, and olive oils, averaged higher than the month before.

The hides and leather products group as a whole decreased approximately 1½ per cent during the month. All subgroups shared in the decline.

The group of textile products as a whole decreased slightly from January to February due to declining prices for clothing, silk and rayon, woolen and worsted goods, and other textile products. Cotton goods averaged higher while knit goods showed no change from the January level.

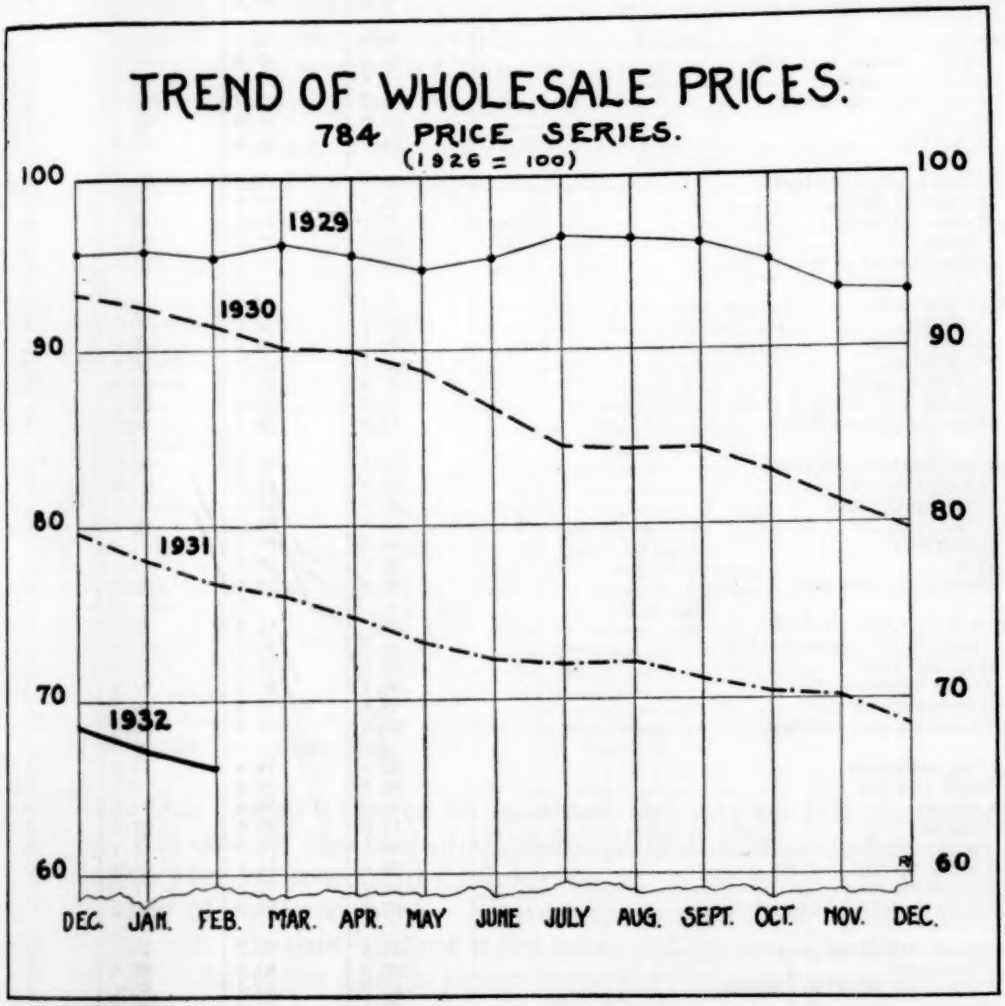
In the group of fuel and lighting materials decreases in anthracite and bituminous coal, coke, and petroleum products were offset by increases in price for electricity and gas, causing the group as a whole to advance slightly more than one-half of 1 per cent from January to February.

Metals and metal products showed a downward tendency for February. With the exception of motor vehicles, all subgroups were below the January level. The group as a whole showed a decrease of approximately 1 per cent.

In the group of building materials, brick and tile, cement and structural steel prices moved slightly upward, while average prices for lumber, paint, and paint materials, and other building materials all moved steadily downward, forcing the group to decline approximately 2 per cent.

Mixed fertilizers continued to decline in February as did also drugs and pharmaceuticals, and fertilizer materials. Chemicals, on the other hand, increased slightly during February. The group as a whole decreased less than one-third of 1 per cent within the month.

Furnishings in the group of house-furnishing goods continued to decline in the month, while furniture remained at the January level.



As a whole, this group declined about one-third of 1 per cent from the month before.

Prices of cattle feed showed a continuous downward trend, whereas the prices of automobile tires and tubes, paper and pulp, and crude rubber, though moving downward, did not show as sharp a price recession as the other subgroups. Other miscellaneous articles also showed declining prices. The decrease for this important group of miscellaneous commodities was nearly 1½ per cent in the month.

Between January and February, price decreases took place in 242 instances, increases in 97 instances, while in 445 cases no change in price occurred.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES

[1926=100.0]

Commodity groups and subgroups	February, 1931	January, 1932	February, 1932	Purchasing power of the dollar, February, 1932
All commodities	76.8	67.3	66.3	$1.508
Farm products	70.1	52.8	50.6	1.976
Grains	60.4	46.7	46.1	2.169
Livestock and poultry	69.6	53.4	50.3	1.988
Other farm products	73.6	54.8	52.7	1.898
Foods	78.0	64.7	62.5	1.600
Butter, cheese, and milk	83.0	67.8	64.1	1.560
Cereal products	75.5	71.0	69.6	1.437
Fruits and vegetables	74.2	62.2	61.8	1.618
Meats	83.6	61.9	59.5	1.681
Other foods	71.1	61.9	59.4	1.684
Hides and leather products	86.9	79.3	78.3	1.277
Boots and shoes	95.0	88.8	88.5	1.130
Hides and skins	57.7	49.0	46.1	2.169
Leather	89.0	77.5	76.5	1.307
Other leather products	102.0	98.9	98.8	1.012
Textile products	70.9	59.9	59.8	1.672
Clothing	79.1	70.7	70.6	1.416
Cotton goods	73.1	55.8	56.4	1.773
Knit goods	64.5	55.8	55.8	1.792
Silk and rayon	47.0	37.7	36.5	2.740
Woolen and worsted goods	73.5	63.3	63.1	1.585
Other textile products	77.8	70.7	69.7	1.435
Fuel and lighting materials	72.5	67.9	68.3	1.464
Anthracite coal	88.9	94.8	94.8	1.055
Bituminous coal	87.8	84.4	84.3	1.186
Coke	83.8	80.5	80.4	1.244
Electricity	94.5	107.5	(1)	
Gas	95.8	98.6	(1)	
Petroleum products	50.2	38.8	38.6	2.591
Metals and metal products	86.5	81.8	80.9	1.236
Agricultural implements	94.3	85.5	85.1	1.175
Iron and steel	85.6	79.9	79.3	1.261
Motor vehicles	94.4	95.3	95.3	1.049
Nonferrous metals	68.4	55.4	52.7	1.898
Plumbing and heating	86.6	74.1	65.8	1.520
Building materials	82.5	74.8	73.4	1.362
Brick and tile	86.3	79.3	79.3	1.261
Cement	87.9	75.2	75.3	1.328
Lumber	74.0	65.6	62.9	1.590
Paint materials	80.5	75.4	75.1	1.332
Plumbing and heating	86.6	74.1	65.8	1.520
Structural steel	84.3	77.3	77.9	1.284
Other building materials	87.8	81.0	80.2	1.247
Chemicals and drugs	83.3	75.7	75.5	1.325
Chemicals	86.6	80.6	80.8	1.238
Drugs and pharmaceuticals	65.2	60.6	60.1	1.664
Fertilizer materials	81.1	69.9	69.8	1.433
Mixed fertilizers	89.1	75.5	73.7	1.357
House-furnishing goods	88.1	77.7	77.5	1.290
Furnishings	84.6	76.1	75.9	1.318
Furniture	92.0	79.5	79.5	1.258
Miscellaneous	71.5	65.6	64.7	1.546
Automobile tires and tubes	46.9	39.7	39.5	2.532
Cattle feed	71.6	53.0	48.2	2.075
Paper and pulp	83.1	78.0	76.7	1.304
Rubber, crude	16.1	9.3	8.6	11.628
Other miscellaneous	89.3	85.2	84.4	1.185
Nonagricultural commodities	78.2	70.3	69.6	1.437
All commodities less farm products and foods	78.3	71.7	71.3	1.403

[1] Data not yet available.

TABLE 2.—COST PER WEEK OF FAMILY BUDGET IN CANADA IN SPECIFIED

COST OF LIVING

Changes in Cost of Canadian Family Budget, 1921 to 1931

THE Canadian Department of Labor has recently issued figures [1] showing the cost per week, in specified months from 1921 to 1931, of the family budget in terms of average retail prices of certain classes of commodities in some 60 Canadian cities.

The following items are included in the budget:

TABLE 1.—ITEMS OF CANADIAN FAMILY BUDGET

Item	Quantity	Item	Quantity
Foods (29):		Foods (29)—Continued.	
Beef, sirloin, steak ..... pounds	2	Beans, hand-picked ..... pounds	2
Beef, shoulder ..... do	2	Apples, evaporated ..... do	1
Veal, shoulder ..... do	1	Prunes, medium ..... do	1
Mutton, roast ..... do	1	Sugar, granulated ..... do	4
Pork, leg ..... do	1	Sugar, yellow ..... do	2
Pork, salt ..... do	2	Tea, black [1] ..... do	¼
Bacon, breakfast ..... do	1	Tea, green [1] ..... do	¼
Lard, pure ..... do	2	Coffee ..... do	¼
Eggs, fresh ..... dozen	1	Potatoes ..... bags	⅓
Eggs, storage ..... do	1	Vinegar ..... quarts	1/16
Milk ..... quarts	6	Starch, laundry ..... pounds	⅓
Butter, dairy ..... pounds	2	Fuel and lighting:	
Butter, creamery ..... do	1	Coal, anthracite ..... tons	1/16
Cheese, old [1] ..... do	1	Coal, bituminous ..... do	1/16
Cheese, new [1] ..... do	1	Wood, hard ..... cords	1/16
Bread ..... do	15	Wood, soft ..... do	1/16
Flour, family [1] ..... do	10	Coal oil ..... gallons	1
Rolled oats ..... do	5	Rent ..... months	¼
Rice [1] ..... do	2		

[1] Kind most sold since October, 1922.

While this budget serves to indicate the rise or fall from time to time in the cost of the included items, it is not intended to show the minimum cost of food and fuel for an average family in Canada or in any one of its Provinces. The quantities of meats, cereals, dairy products, etc., in this budget were adopted as constituting a weekly liberal allowance for the healthy family of a man engaged in hard physical labor. An average family, however, with an income sufficient to do so would purchase less meat, etc., but more fresh and canned vegetables, fruit, etc., so that there would be little change in the total amount of expenditure for food.

For the average family of five the expenditure for the items in this budget would perhaps be equivalent to 65 per cent of the total income. It is estimated that an allowance for clothing and sundries would increase the given totals about 50 per cent.

[1] Canada. Department of Labor. Prices in Canada and other countries, 1931 (issued as a supplement to the Labor Gazette, January, 1932). Ottawa, 1932, pp. 6,7.

TABLE 2.—COST PER WEEK OF FAMILY BUDGET IN CANADA IN SPECIFIED MONTHS, 1921 TO 1931

[This budget is intended to show the change in the cost of items included, not to show the minimum cost for an average family]

Year and month	All (29) foods	Starch, laundry (⅓ pound)	Fuel and lighting	Rent (¼ month)	Total
1921: January	$14.48	$0.049	$4.17	$6.60	$25.30
July	10.96	.044	3.70	6.83	21.53
1922: January	11.03	.042	3.53	6.92	21.52
July	10.27	.040	3.41	6.95	20.67
1923: January	10.52	.040	3.61	6.96	21.13
July	10.17	.040	3.48	6.97	20.65
1924: January	10.78	.041	3.49	6.92	21.23
July	9.91	.041	3.37	6.98	20.30
1925: January	10.77	.041	3.37	6.91	21.09
July	10.49	.041	3.28	6.89	20.70
1926: January	11.63	.041	3.44	6.86	21.96
July	11.07	.042	3.32	6.87	21.30
1927: January	11.37	.041	3.33	6.85	21.59
July	10.92	.041	3.28	6.86	21.10
December	11.17	.041	3.29	6.87	21.37
1928: January	11.19	.041	3.28	6.89	21.41
July	10.80	.041	3.26	6.91	21.01
December	11.31	.041	3.26	6.94	21.56
1929: January	11.30	.041	3.27	6.94	21.55
July	10.98	.040	3.26	6.98	21.26
December	11.83	.041	3.26	6.98	22.11
1930: January	11.88	.041	3.26	6.99	22.17
July	10.91	.040	3.24	7.07	21.26
December	10.10	.040	3.24	7.07	20.46
1931: January	9.86	.040	3.25	7.06	20.21
July	8.11	.040	3.18	6.93	18.26
December	7.85	.040	3.10	6.77	17.76

Rents Lowered in Chile

THE November 13, 1931, issue of the Diario Oficial of Chile contains a law (No. 5001) which provides that the rents of houses, apartments, and shops intended for residential, commercial, or industrial purposes must be fixed at 20 per cent below the rate charged on January 1, 1931, as an aid in relieving the economic depression in this Republic.

IMMIGRATION AND EMIGRATION

Statistics of Immigration for January, 1932

By J. J. Kunna, Chief Statistician, United States Bureau of Immigration

A TOTAL of 9,462 aliens was admitted to the United States in January, 1932, the immigrant class, newcomers for permanent residence in this country, numbered 2,220, the remaining 7,242 being tourists or other temporary visitors. Of the latter number, 4,507 were admitted for a short stay of less than one year and 2,735 were returning to a permanent domicile after a temporary sojourn abroad. During the same month 23,243 aliens left the United States, 14,693 of whom were of the visiting or nonemigrant class and 8,550 were emigrants leaving to make their homes in some foreign country again. American citizens returning to and departing from the United States in January totaled 17,158 and 25,016, respectively. Compared with the previous month there was a decrease in both the inward and outward movement of aliens, but an increase of arriving and departing citizens.

Over one-half of the newcomers in January came from European countries, Italy leading the list with 523, followed by Germany with 126, Poland with 110, and Great Britain with 92. Canada contributed 453 immigrants and Mexico 185. Immigration from all countries dropped 45.7 per cent since a year ago and 90 per cent since 1924. Only 1 immigrant is now admitted for every 15 immigrants entering the country in January, 1924, the statistics for this month showing a continued decrease from year to year, with a sudden drop from 14,767 in January, 1930, to 4,091 in January, 1931, and then to 2,220 in January, 1932. Among the vastly reduced present-day immigrants about 1 out of every 5 is a wage earner, contrasted with the new arrivals in 1924 when over one-half of the immigrants were wage earners.

The principal nationalities or races contributing immigrant aliens in January, 1932, were the Italian, English, Hebrew, German, Mexican, Scotch, French, Greek, and Irish. These nine supplied 74.8 per cent of the total immigrants for the month. In January, 1930, the English, German, Scotch, Italian, Irish, Mexican, Hebrew, French, and Scandinavian led in the order given and comprised 82.8 per cent of the total for that month.

About two-thirds, or 6,140 of the 9,462 aliens of all classes admitted in January, 1932, were born in European countries, the five principal ones being England, Italy, Germany, Scotland, and Poland; 2,368 gave countries in the Western Hemisphere as their place of birth, mainly Canada (1,107), Cuba (476), and Mexico (356); 819 were born in Asia, 40 in Africa, and 95 in Australasia and the Pacific Islands.

The 9,462 were admitted under the immigration act of 1924 as follows: 2,723 as residents of the United States returning from a visit abroad; 2,538 as visitors for business or pleasure; 1,752 as persons

passing through the country on their way elsewhere; 772 as immigrants charged to the quota; 723 as wives, husbands, and unmarried children of American citizens; and 528 as natives of nonquota countries. Of the remainder, 261 were Government officials, their families, attendants, servants, and employees; 57 came in to carry on trade under existing treaty; 43 were students; 41 were ministers or professors and their wives and unmarried children; and 24 were miscellaneous classes.

Resident aliens of the United States who departed for intended future permanent residence in a foreign country (numbering 8,550 for January) were nearly twice the number of the same class leaving during the corresponding month a year ago. About 4 emigrants are now leaving the country for every immigrant admitted, contrasted with 1 departed to 6 admitted in January, 1924.

A total of 577 (426 male and 151 female) aliens were debarred during January last from entering the United States, of which number 495 were turned back at the land borders and 82 at the seaports of entry. The major portion of those debarred were refused admission for failure to present proper immigration visas under the act of 1924. In the same month 1,537 undesirable aliens were deported from the United States under warrant proceedings, this number having been permanently banished from the country for various causes under the immigration laws. The total deportees for the first seven months—July through January last—of the current fiscal year were 10,771, an increase of 746 and 1,187 ,respectively, over the corresponding months a year ago and two years ago. Indigent aliens returned to their native land at their own request numbered 1,776 for the seven months from July through January last.

The Empire State continues to be the principal settling ground for arriving aliens, 794 of the January immigrants giving New York State as their intended future permanent residence. California, with 205, received the next largest number, while 150 went to Michigan, 142 to Massachusetts, 137 to Pennsylvania, 133 to New Jersey, and only 106 to all the South Atlantic and South Central States, excluding Texas.

The skilled workers, numbering 185, comprise the largest group among the wage-earning immigrants admitted in January last, while 113 were laborers and 56 were servants. There were 133 immigrants of the professional class and 77 of the commercial class; 103 gave miscellaneous occupations; and by far the largest number of 1,553 had no occupation, being mainly women and children. Among the permanent departures this month recorded as emigrants, 3,267 were laborers, 1,060 were skilled workers, 441 were servants, 426 were of the professional and commercial classes, and 431 were of the miscellaneous group. The remaining 2,925 of the January emigrants were listed as having no occupation.

INWARD AND OUTWARD PASSENGER MOVEMENT, JULY 1, 1931, TO JANUARY 31, 1932

Period	Inward					Aliens debarred from entering [1]	Outward					Aliens deported after entering [2]
	Aliens admitted			United States citizens arrived	Total		Aliens departed			United States citizens departed	Total	
	Immigrant	Non-immigrant	Total				Emigrant	Non-emigrant	Total			
1931												
July	3,174	12,361	15,535	30,944	46,479	761	7,428	20,450	27,878	46,961	74,839	1,681
August	4,090	16,580	20,670	59,372	80,042	657	9,541	23,009	32,550	65,895	98,445	1,584
September	5,017	20,940	25,957	62,581	88,538	684	8,733	20,393	29,126	42,247	71,373	1,446
October	3,913	17,096	21,009	32,427	53,436	806	10,857	16,525	27,382	35,016	62,398	1,663
November	2,899	9,832	12,731	16,823	29,554	573	11,318	14,271	25,589	23,224	48,813	1,524
December	2,642	8,086	10,728	16,932	27,660	485	10,727	17,370	28,097	24,351	52,448	1,336
1932												
January	2,020	7,242	9,462	17,158	26,620	577	8,550	14,693	23,243	25,016	48,259	1,537
Total	23,955	92,137	116,092	236,237	352,329	4,543	67,154	126,711	193,865	262,710	456,575	10,771

[1] These aliens are not included among arrivals, as they were not permitted to enter the United States.
[2] These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

PUBLICATIONS RELATING TO LABOR

Official—United States

HAWAII.—Governor. *Annual report for fiscal year ended June 30, 1931. Washington, 1931. 135 pp.*

Includes data relating to immigration, workmen's compensation, and the territorial retirement system.

MILWAUKEE.—Citizens' Committee on Unemployment, and the Public Employment Office. *Nineteenth annual report, July 1, 1930, to June 30, 1931. Milwaukee, 1931. 20 pp., charts.*

MISSOURI.—Workmen's Compensation Commission. *Fourth annual report, for the period from January 1, 1930, through December 31, 1930. Jefferson City, [1931?]. 238 pp.*

Reviewed in this issue.

NEW YORK.—Department of Labor. *Special Bulletin No. 168: The social aspects of the administration of the double compensation law in New York State. Prepared by Division of Women in Industry. New York, 1931. 114 pp.*

A study of present methods of enforcing the payment of double compensation to minors under 18 illegally employed, and recommendations for desirable changes in the existing procedure, for clarification of the labor law covering illegal employment, and for a publicity campaign on the costs to employers through illegal employment of minors.

—— —— *Special Bulletin No. 170: Cost of compensation, two years ended June 30, 1930. Prepared by the Division of Statistics and Information. Albany, 1931. 129 pp.*

Figures for the year ending June 30, 1931, taken from the New York Industrial Bulletin, were published in the Labor Review for January, 1932.

—— —— *Special Bulletin No. 172: Unemployment in Buffalo, November, 1931, by Frederick E. Croxton. New York, 1931. 61 pp., charts. (Issued by Division of Statistics and Information.)*

Comparative figures from the previous surveys, made in November of 1929 and 1930, are also given in the report. A summary of the results of the study was published in the Labor Review for February, 1932 (pp. 262–275).

—— —— Division of Industrial Hygiene. *Accidents in the paper products industry; their cause and suggestions as to prevention, by Herbert L. Reid, safety inspector. New York, 80 Centre Street, 1931. 51 pp., diagrams, illus.*

Contains an analysis of accidents occurring in 150 establishments, made for the purpose of showing, through practical suggestions, how similar injuries can be prevented. A set of general rules is included, with the recommendation that they be posted in the workroom to assist in avoiding common accidents.

OHIO.—Department of Industrial Relations. Division of Labor Statistics. *Report No. 22: Union scale of wages and hours of labor in Ohio on May 15, 1930. Columbus, 1931. 45 pp.*

PHILIPPINE ISLANDS.—Department of Commerce and Communications. Bureau of Labor. *Procedure for the application of the workmen's compensation act as amended. Manila, 1931. 60 pp., diagrams, illus.*

SOUTH DAKOTA.—Industrial Commission. *Fourteenth annual report, of the 12 months ending June 30, 1931. [Pierre, 1931?] 35 pp.*

Reviewed in this issue.

VIRGINIA.—Industrial Commission. *Biennial report reviewing the administration of the Virginia Workmen's Compensation Act, 1929–1930. Richmond, 1931. 15 pp.*

Reviewed in this issue.

WEST VIRGINIA.—Governor. *Statement on report made by the select committee of the house of delegates, session of 1931, on the [workmen's] compensation department. Charleston, 1931. 31 pp.*

UNITED STATES.—Congress. Senate. *Report No. 135 (to accompany S. 3045, 72d Cong., 1st sess.): Unemployment relief. Washington, 1932. 3 pp.*

—— —— —— Committee on Immigration. *Deportation of certain alien seamen. Hearings, Jan. 22 and 23, 1932 (72d Cong., 1st sess.) on S. 7, a bill to provide for the deportation of certain alien seamen, and for other purposes. Washington, 1932. 113 pp.*

—— Department of Commerce. Bureau of Foreign and Domestic Commerce. *Commerce yearbook, 1931. Vol. II— Foreign countries. Washington, 1931. 746 pp., maps, charts.*

Reviews economic conditions and events in 78 foreign countries, the information relating, for the most part, to 1930 and earlier years. The subjects covered include production, foreign trade, price and cost-of-living indexes, and, for some countries, labor conditions.

—— —— Bureau of Mines. *Bulletin 347: Gases that occur in metal mines, by D. Harrington and E. H. Denny. Washington, 1931. 21 pp.*

—— —— Bureau of the Census. *Manual of the international list of causes of death, based on the fourth decennial revision by the International Commission, Paris, October 16 to 19, 1929. Washington, 1931. 342 pp.*

A reference book for the recording of fatality statistics, prepared for international uniformity of classification and modified in 1929 to conform to present medical knowledge.

—— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 546: Wages and hours in rayon and other synthetic yarn manufacturing, 1930. Washington, 1932. 31 pp.*

An advance summary of the results of this survey was published in the Labor Review for December, 1930 (pp. 150–156).

—— —— —— *Bulletin No. 551: Wages and hours of labor in the boot and shoe industry, 1910 to 1930. Washington, 1932. 87 pp.*

An advance summary of the data obtained in this survey was published in the Labor Review for July, 1930 (pp. 152–159).

—— —— —— *Bulletin No. 562: Safety codes for the prevention of dust explosions. National Fire Protection Association and United States Department of Agriculture, sponsors. American standard approved by the American Standards Association. Washington, 1931. 87 pp., diagrams, illus.*

—— —— —— *Bulletin No. 563: Proceedings of the 18th annual convention of the Association of Governmental Officials in Industry of the United States and Canada, Boston, Mass., May 18–22, 1931. Washington, 1932. 177 pp.*

—— Department of the Interior. Office of Education. *Bulletin, 1931, No. 13: Bibliography of research studies in education, 1929–1930, prepared by Edith A. Wright. Washington, 1931. 475 pp.*

Includes references to reports on adult education, industrial education, and vocational guidance.

—— —— —— *Bulletin, 1931, No. 20: Biennial survey of education in the United States, 1928–1930. Chapter IV—Industrial education, by Maris M. Proffitt. Washington, 1931. 44 pp. (Advance pages of Vol. I.)*

Reviewed in this issue.

—— Shipping Board. *Report on marine and dock industrial relations, fiscal year ended June 30, 1931. Washington, [1931?]. 249 pp. (Mimeographed.)*

Official—Foreign Countries

ALSACE-LORRAINE (FRANCE).—Office Général des Assurances Sociales. *Bulletin, Nos. 10–11, pp. 159–381: Rapport sur le fonctionnement de l'Office Général des Assurances Sociales, des offices supérieurs départementaux et des offices d'assurance durant l'année 1930. Compte rendu des opérations des institutions d'assurances sociales pendant l'année 1929. Strassburg, October–November, 1931.*

This report of the social insurance office of Alsace-Lorraine covers the administrative details for 1930 and statistics regarding the operation of sickness, invalidity, old-age, and accident-insurance funds in 1929.

BRITISH COLUMBIA (CANADA).—Minimum Wage Board. *Report for the year ended December 31, 1930. Victoria, 1931. 16 pp.*

BULGARIA.—Direction Générale de la Statistique. *Statistique des coopératives dans le Royaume de Bulgarie en 1929. Sofia, 1931. 89 pp.*

Statistics of Bulgarian cooperative societies in 1931. Table of contents and tables are in Bulgarian and French.

CANADA.—Bureau of Statistics. Internal Trade Branch. *Prices and price indexes, 1913–1930. Ottawa, 1931. 205 pp., charts.*

—— Department of Immigration and Colonization. *Report for the fiscal year ending March 31, 1931. Ottawa, 1931. 92 pp.*

A brief account of colonization schemes in Canada, based on information published in the January, 1932, Labor Gazette of the Canadian Department of Labor, is given in this issue of the Labor Review.

—— Department of Labor. *Fourth annual report on cooperative associations in Canada, 1931. Ottawa, 1931. 108 pp.*

—— —— *Prices in Canada and other countries, 1931. Ottawa, 1932. 30 pp.*

Data from this report are published in this issue of the Labor Review.

—— —— *Report for the fiscal year ending March 31, 1931. Ottawa, 1932. 225 pp.*

Reviews the operation of the industrial disputes investigation act and of the Government annuities act, the fair wages policy, conciliation work, old-age pensions, labor legislation, strikes and lockouts, fatal industrial accidents, the work of the employment service, cooperative societies, and other activities of interest to labor.

—— —— *Wages and Hours of Labor Report, No. 15: Wages and hours of labor in Canada, 1926, 1930, and 1931. Ottawa, 1932. 67 pp.*

Statistics from this publication are given in this issue of the Labor Review.

CZECHOSLOVAKIA.—Ministerstvo Sociální Péce. *Statistika nemocenského pojištění za rok 1926. Prague, 1931. 84 pp. and 14 separate statistical tables. (In Czech, French, and German.)*

Contains statistical and descriptive information in regard to the operation of the public-health insurance system for workers in Czechoslovakia for the year 1926.

DENMARK.—Statistiske Departement. *Statistisk aarbog, 1931. Copenhagen, 1931. 264 pp.*

Contains data on housing, number of workers in agriculture and industry, factory inspection, prices, cost of living, cooperative societies, social insurance, industrial accidents, employment placement work, unemployment, labor disputes, wages and hours, labor organizations, etc.

FINLAND.—Tilastollisen Paatoimiston. *Suomen tilastollinen vuosikirja, 1931. Helsingfors, 1931. 366 pp.*

Statistical yearbook for Finland for 1931. Includes information on number of workers in various industries, 1909–1929; accidents to workers, total, 1918 to 1927, and by industry, 1899–1927; strikes and lockouts, 1910–1930; wages of workers engaged in construction work on State railways and of agricultural workers in 1930; and index numbers of prices and cost of living in 1931 and earlier years. Tables are in both Finnish and French.

GREAT BRITAIN.—Board of Trade. *Statistical abstract for the United Kingdom for each of the 15 years 1913 and 1917 to 1930. 75th number. London, 1932. xv, 403 pp. (Cmd. 3991.)*

—— Mines Department. Safety in Mines Research Board. *Paper No. 73: The combustion of coal dust, by A. L. Godbert and R. V. Wheeler. London, 1932. 21 pp., diagrams, illus.*

—— Parliament. House of Commons. Select Committee on Shop Assistants. *Report. London, 1931. 3 vols.*

Reviewed in this issue.

—— Registry of Friendly Societies. *Report for the year 1930. Part 4: Trade-unions—Section I, Proceedings and statistical notes. London, 1932. 16 pp.*

The statistics given in the report relate to the year ending December 31, 1929.

—— —— *Report for the year 1931. Part 4: Trade-unions—Section II, Directory and summaries. London, 1932. 33 pp.*

THE HAGUE (NETHERLANDS).—Statistisch Bureau. *Statistiek van het Gemeente-personeel, 1930. The Hague, 1931. 71 pp., charts.*

Annual report on the personnel of the municipal government of The Hague for 1930, including their wages and salaries.

INTERNATIONAL LABOR OFFICE.—*The age of admission of children to employment in nonindustrial occupations. (Third item on the agenda of the International Labor Conference, 16th session, Geneva, April, 1932; second discussion. Report.) Geneva, 1932. 271 pp. (World Peace Foundation, Boston, American agent.)*

—— *International survey of legal decisions on labor law, 1930. Geneva, 1931: xlviii, 366 pp. (World Peace Foundation, Boston, American agent.)*

—— *Partial revision of the convention concerning the protection against accidents of workers employed in loading or unloading ships. (Item IV on agenda of International Labor Conference, 16th session, Geneva, April, 1932, Report IV.) Geneva, 1932. 97 pp. (World Peace Foundation, Boston, American agent.)*

—— *Studies and Reports, Series N, No. 17: An international inquiry into costs of living—A comparative study of workers' living costs in Detroit and fourteen European cities. Geneva, 1931. 209 pp. (World Peace Foundation, Boston, American agent.)*

A brief summary of the results of this study was published in the Labor Review for January, 1932 (pp. 1–4).

NEW SOUTH WALES (AUSTRALIA).—Director General of Public Health. *Report for the year 1930. Sydney, 1931. 132 pp., charts, illus.*

The report contains the general report of the medical officer for industrial hygiene and an account of a study of bakers' dermatitis.

NEW ZEALAND.—Census and Statistics Office. *The New Zealand official yearbook, 1932. Wellington, 1931. 858 pp., maps, charts.*

Contains the usual statistical review of the Dominion's economic, industrial, and social situation.

NORWAY.—Statistiske Centralbyrå. *Statistisk årbok for Kongeriket Norge, 1931. Oslo, 1931. 277 pp. (Table of contents and table heads in Norwegian and French.)*

Contains data on emigration, establishments covered by law on insurance against industrial accidents, operations under social-insurance system, number of workers in mines, on railroads, etc., prices and cost of living, cooperation, strikes, operations of public employment offices, wages of agricultural workers, collective agreements, housing, etc.

POLAND.—Ministère du Travail et de l'Assistance Sociale. *Annuaire des syndicats professionnels des travailleurs en Pologne, 1929. Warsaw, 1931. 162 pp., charts. (In Polish and French.)*

A report on the unions of salaried employees and wage earners in Poland during 1929, including statistics relating to the number of unions, their membership, financial condition, etc.

QUEBEC (CANADA).—Social Insurance Commission. *First and second reports. [Quebec], 1932. 60 pp.*

The first report, dated December 29, 1930, urged the provincial government to include occupational diseases in the proposed workmen's compensation; this has since been done. Among the subjects dealt with in the second report are children in institutions, mothers' pensions, and old-age pensions.

QUEENSLAND (AUSTRALIA).—Department of Labor. *Report of the director of labor and chief inspector of factories and shops for the year ended June 30, 1931. Brisbane, 1931. 54 pp.*

Includes statistics of employment, unemployment relief, and wages fixed by awards during each year, 1926 to 1931.

SOUTH AUSTRALIA (AUSTRALIA).—Statistical Office. *Statistical register, 1929–30. Adelaide, 1931. [Various paging.]*

Includes data relating to cooperative societies, prices, production, and wages.

SPAIN.—Ministerio de Trabajo y Prevision. Direccion General del Instituto Geografico, Catastral y de Estadistica. *Anuario estadístico de España, 1929. Madrid, 1931. [Various paging.] 2 vols. Maps, charts.*

This statistical yearbook of Spain includes tables showing wages, strikes, industrial accidents, and index numbers of food prices in Spain for 1929.

SWEDEN.—[Socialdepartementet.] Socialstyrelsen. *Yrkesinspektionens verksamhet år 1930. Stockholm, 1931. 117 pp., diagrams, illus.*

Annual report, for 1930, on labor inspection in factories, mines, etc., in Sweden. Includes information on accidents to workers and occupational diseases and methods for their prevention, housing and living conditions of forestry workers, medical examination of miners, etc.

SWITZERLAND.—Conseil Fédérale. *Rapport a l'assemblée fédérale sur sa gestion en 1929. [Berne, 1930?] 865 pp.*

This report of the Swiss Federal Council for 1929 includes among the reports of the different Government departments the annual reports of the Federal social insurance office and the labor office.

Unofficial

ACHILLES, PAUL S., Editor. *Psychology at work. New York, McGraw-Hill Book Co. (Inc.), 1932. 260 pp.*

Based on a series of seven lectures delivered under the auspices of the Psychological Corporation in New York City in the winter of 1931. Among the chapters is one on psychology and industry and another on psychology and social and political problems.

AMERICAN STANDARDS ASSOCIATION. *American recommended practice for drainage of coal mines. Sponsor, American Mining Congress. Approved, American Standards Association, October 1, 1931. New York, 29 West 39th Street, 1931. 44 pp., illus.*

Presents in detail the recommended methods of installation and operation of equipment for drainage of coal mines. The standard also covers storage of mine waters, limitations of natural drainage, methods of removal of water from abandoned workings, the effect of mine waters on drainage equipment, and recommendations on the use of acid-resisting metals and alloys.

BEASLEY, NORMAN. *Men working: A story of the Goodyear Tire & Rubber Co. New York, Harper & Bros., 1931. xix, 296 pp.*

BOUVIER, JEANNE. *Histoire des dames employées dans les postes, télégraphes et téléphones de 1714 à 1929. Paris, Les Presses Universitaires de France, 1930. 357 pp.*

A history of the employment of women in the French postal, telegraph, and telephone systems from 1714 to 1929.

BOWIE, JAMES A. *Rationalization. London, Isaac Pitman & Sons (Ltd.), 1931. 36 pp.*

CALIFORNIA, UNIVERSITY OF. Bureau of Public Administration. *A study of the salaries, education and experience records of library employees in the State of California, as of May 1, 1930.* [*Los Angeles*], *1931. 37 pp.*

Data from this report are given in this issue of the Labor Review.

COOPERATIVE LEAGUE OF THE U. S. A. *Second yearbook: A survey of consumers' cooperatives in the United States, 1932. New York, 167 W. 12th St., 1932. 256 pp., illus.*

Contains basic statistical data for each of the societies affiliated to the league, and in the case of the Northern States Cooperative League, an analysis of the data; also articles by well-known cooperators, economists, and others.

Data showing the progress of the league in 1930, and the wages paid in cooperative employment, compiled from this yearbook, are given in this issue of the Labor Review.

DICKINSON, ROY. *Wages and wealth: This business roller-coaster. Princeton, Princeton University Press, 1931. 158 pp.*

FURNAS, C. C. *America's tomorrow: An informal excursion into the era of the two-hour working-day. New York, Funk & Wagnalls Co., 1932. 295 pp.*

GAMIO, MANUEL. *The Mexican immigrant—his life-story. Chicago, University of Chicago Press, 1931. 288 pp., map.*

A collection of the autobiographies of various types of Mexican immigrants, which supplements the author's previous volume entitled "Mexican immigration to the United States."

HABER, WILLIAM. *Unemployment, a problem of insecurity. New York City, Affiliated Summer Schools for Women Workers in Industry, Educational Department, 218 Madison Ave., 1931. 86 pp.*

An outline for a 10-week course of study of unemployment. The subject is treated under five headings: (1) The problem and its consequences; (2) extent; (3) relation to workers' problems; (4) causes; and (5) methods and problems of solution.

HAWLEY, EDITH. *Economics of food consumption. New York, McGraw-Hill Book Co. (Inc.), 1932. 335 pp., charts.*

HOFFMAN, FREDERICK L. *San Francisco cancer survey. Seventh preliminary report. Newark, Prudential Press, 1931. 227 pp.*

This report gives the cancer mortality of San Francisco and Boston by occupation.

INSTITUTE OF POLITICS (WILLIAMSTOWN, MASS.). *Report of the round tables and general conferences at the eleventh session. Edited by Arthur Howland Buffinton. Williamstown, 1931. 263 pp.*

World economic planning was the predominant theme of the 1931 meeting of the institute. The discussions on the distribution of wealth and income and on the depression and the way out have a special bearing on labor problems.

INTERCOLLEGIATE DEBATES. *Vol. XII. New York, Noble & Noble, 1931.* [*Various paging.*]

The subjects treated in these debates include unemployment insurance, State medical aid, and emergence of women from the home.

INTERNATIONAL INDUSTRIAL RELATIONS ASSOCIATION (I. R. I.). *1931 World Social Economic Congress. Reports issued for study by members of the congress. Section I: No. 1, Introduction to reports on fluctuations in employment, by Mary Van Kleeck; No. 2, Report of fluctuations in unemployment in Australia, by F. C. Benham; No. 3, Report on employment and income of labor in Canada, 1910–1931, by W. A. Berridge; No. 4, Industry and labor in China, Note on unemployment in China, by L. K. Tao and S. H. Lin; No. 5, Konjunkturelle Arbeitslosigkeit in Deutschland, by Robert Wilbrandt; No. 6, Report of fluctuations in unemployment in France, by F. C. Benham; No. 7, Report of fluctuations in unemployment in Great Britain, by F. C. Benham; No. 8, Report on employment and income of labor in the United States, 1910–1931, by W. A. Berridge. Section II: No. 1, Principles and practice of scientific management, by H. S. Person; No. 2, Europäische Aspekte der Rationalisierungsbewegung-Bedeutung des Scientific Management für die Sozialökonomische Planung, by Hugo von Haan; No. 3, The problem of economic planning, by Lewis L. Lorwin. The Hague, 66 Javastraat, 1931.*

With one exception, all of these reports which are printed in a foreign language include an English summary. A résumé of the sessions of the World Social Economic Congress of 1931 was published in the December, 1931, issue of the Labor Review (p. 131).

JERNEGAN, MARCUS WILSON. *Laboring and dependent classes in Colonial America, 1607–1783. Chicago, University of Chicago Press, 1931. 256 pp. (Social Service Monographs No. 17.)*

A collection of essays on the systems of slavery, indentured servitude, and apprenticeship as developed in New England and the southern colonies. Part I deals with the nonagricultural side of slave labor and the necessity and methods of making craftsmen out of Negro slaves. Other sections cover the economic and social significance of the indentured servant; apprentice education and trade training; the rise of public education; and public poor relief in Virginia and New England.

JOHNSEN, JULIA E., Comp. *Capitalism on trial. New York, H. W. Wilson Co., 1931. 210 pp. (The Reference Shelf, Vol. VII, No. 10.)*

LABOR PARTY, GREAT BRITAIN. *Two years of labor rule. London, S. W. 1, [1931?]. 52 pp.*

A résumé of the accomplishments of the Labor Government, compared with the aims set forth and promises given in the general election manifesto of the party in 1929.

LANDSORGANISATIONENS I SVERGE. *Protokoll, tionde ordinarie kongress i Stockholm den 9–16 Augusti 1931. Stockholm, 1931. 392 pp.*

Minutes and proceedings of the 10th congress of the Federation of Labor Unions in Sweden, held August 9–16, 1931, including addresses and resolutions.

LÉVY, ROGER. *Intellectuels, unissez-vous! Paris, Marcel Rivière, 1931. 237 pp.*

The subject of this book is the organization of intellectual workers in different professions, both nationally and internationally. Several interviews on the subject with noted persons are included and there is a bibliography on intellectual cooperation.

LORD, RUSSELL. *Men of earth. New York, Longmans, Green & Co., 1931. 298 pp., illus.*

Character studies of 40 farm men and women, among them merchant farmers and farm engineers.

MCCORD, CAREY P. *Benzol (benzene) poisoning: A new investigation of the toxicity of benzene and benzene impurities. Cincinnati, Industrial Health Conservancy Laboratories, 1931. 78 pp. (Mimeographed.)*

This study reviews the earlier studies of the toxicity of benzol and adds the results of animal experimentation with reference to highly purified benzol and to the impurities within some commercial products.

MARTLAND, HARRISON S. *The occurrence of malignancy in radioactive persons. Reprinted from the American Journal of Cancer, New York, Vol. XV, No. 4, October, 1931, pp. 2435–2516.*

Reviewed in this issue.

MAZUR, PAUL M. *New roads to prosperity: The crisis and some ways out. New York, Viking Press, 1931. 194 pp.*

METROPOLITAN LIFE INSURANCE CO. Policyholders Service Bureau. *Industrial Health Series, No. 5: Air conditions and the comfort of workers. New York, [1932?]. 20 pp., diagram, illus.*

Reviewed in this issue.

MOONEY, JAMES D. *Wages and the road ahead. London and New York, Longmans, Green & Co., 1931. 149 pp.*

NATIONAL BOARD OF FIRE UNDERWRITERS. *Building code. New York, 85 John Street, 1931. 316 pp., illus. (Fifth edition, completely revised.)*

An ordinance providing for fire limits, and regulations governing the construction, alteration, equipment, repair, or removal of buildings or structures.

NATIONAL INDUSTRIAL CONFERENCE BOARD. *Medical supervision and service in industry. New York, 247 Park Avenue, 1931. 125 pp.*

This study shows the developments in industrial medical service since a previous study in 1924. It shows that preventive health work and health education are receiving increasing attention and that smaller companies are showing an added interest in medical work.

NEW SURVEY OF LONDON LIFE AND LABOR. *Vol. II: London industries—I. London, P. S. King & Son (Ltd.), 1931. 492 pp., map, charts.*

The second volume of the study undertaken in 1928 by the London School of Economics and Political Science to review conditions in the trades and industries studied by Charles Booth approximately 40 years ago. The groups dealt with are the building industry, the engineering and metal industries, the furnishing and woodworking trades, the clothing trades, boot and shoe making and repairing, dock labor, and domestic service. It is pointed out that as these industries employ less than half the workers of London, general conclusions must be left for succeeding volumes. This, however, shows the changes since Booth's time in several of the most important industries in which the earlier survey found conditions which led almost inevitably to the submersion of a large proportion of their workers below the poverty line.

PEOPLE'S YEAR BOOK, 1932. *Fifteenth annual of the English and Scottish Cooperative Wholesale Societies. Manchester and Glasgow, 1932. 336 pp., illus.*

As usual, this yearbook contains detailed statistics of the English cooperative movement and summary data for each of many other countries, besides articles of general interest, including a symposium on the subject "Is there a higher standard of life in Europe?" (covering the countries of Great Britain, Austria, Sweden, Germany, France, and the United States).

A summary of one of the general articles, "The nonmanual workers: A new power in the Nation," is given in this issue of the Labor Review.

PRINCETON UNIVERSITY. [Department of Economics and Social Institutions.] Industrial Relations Section. *Company plans for employee savings and investment, by Eleanor Davis. Princeton, N. J., 1931. 38 pp., bibliography. (Preliminary draft, mimeographed.)*

Reviewed in this issue.

DE SCHWEINITZ, DOROTHEA. *How workers find jobs: A study of 4,000 hosiery workers in Philadelphia. Philadelphia, University of Pennsylvania Press, 1932. 199 pp., maps, charts. (Research Studies XVI, Industrial Research Department, Wharton School of Finance and Commerce.)*

This volume shows how hosiery workers in Philadelphia find their jobs and contains wage statistics, occupation descriptions, information relative to the age, race, length of service, length of learning period, and related facts for this group of workers.

SERWY, VICTOR. *La neutralité coopérative et les partis politiques. 27 pp. (Extrait de la Revue des Etudes Coopératives (Paris), Avril–Juin, 1931.)*

Explains just what is meant by the political "neutrality" of the cooperative movement; the attitude toward political parties taken by the cooperative movement in the various countries and the reason for the adoption of this attitude; and the relations of the cooperative societies with political parties.

TRADES AND LABOR CONGRESS OF CANADA. *Report of the proceedings of the forty-seventh annual convention, held at the city of Vancouver, B. C., September 21-25, 1931. Ottawa, [1931?]. 228 pp.*

A brief account of this convention was published in the December, 1931, issue of the Labor Review.

UNION SUISSE DES PAYSANS. SECRÉTARIAT. *Centième publication: L'Activité de l'Union Suisse des Paysans et du Secrétariat des Paysans Suisses, 1922–1930. Brugg, 1931. 155 pp.*

Review of the work of the Swiss Farmers' Union since 1922.

[VOCATIONAL ADJUSTMENT BUREAU FOR GIRLS, NEW YORK CITY. *Miscellaneous Pamphlets, No. 9]: The vocational adjustment of mental defectives, by Emily T. Burr. New York, [1931?]. 8 pp.*

Among the principal subjects discussed in this brochure are the difficulties in the guidance of the feeble-minded and the industrial opportunities and occupational training for this group.

WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION. Section III. Education and training. Committee on special classes. *Special education: The handicapped and the gifted. New York, Century Co., 1931. 604 pp.*

The five aspects of the problem of extending special education to handicapped children which call for particular consideration are, according to the summary of this volume, publicity, cost, teacher training, legislation, and cooperation.

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